

Ag Decision Maker

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UPDATES

The following [Information Files](#) have been updated on extension.iastate.edu/agdm:

A3-12 Historical Iowa Farm Custom Rate Survey

The following [Video and Decision Tools](#) have been updated on extension.iastate.edu/agdm:

A1-10 Chad Hart's Latest Ag Outlook

A1-57 Delayed and Prevented Planting Evaluator

A3-12 Historical Iowa Farm Custom Rate Survey Data

C2-75 Farmland Value Survey (REALTORS® Land Institute)

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



Preparations for the upcoming crop year

By Chad Hart, extension crop market economist,
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With the calendar shift into April, farmers are gearing up for planting. USDA has provided four major reports that outline crop supplies and demand estimates for both the 2023 and 2024 crops. With the March and April World Ag Supply and Demand Estimates (WASDE) reports, USDA has provided the markets an update on the shifting set of crop usage for the 2023 crops. With the March releases of the Grain Stocks and Prospective Plantings reports, USDA revealed the sizable crop stocks remaining in farmer hands as we go into planting and the differences between farmers' planting intentions and USDA's early projections on crop acreage. To summarize how these reports have adjusted the 2024 outlook, I have combined the latest crop usage estimates for the 2023 crops from the April WASDE report, the new estimates for 2024 plantings from the Prospective Plantings report, and the yield and 2024 crop usage estimates from the Ag Outlook Forum to create tentative balance sheets for corn and soybeans. Take these balance sheets with a chunk

of salt (probably need the entire salt block) as USDA will likely make several significant adjustments to the 2024 crop usage estimates, starting in the May WASDE report (the first WASDE report that will have 2024 crop estimates). These balance sheets provide a good starting point for discussing the opportunities and challenges for the upcoming crops.

Corn in 2024

Let's start with corn. Corn usage has been rebuilding, but it hasn't been able to keep up with production. Thus, ending stocks are building and prices have retreated. The March stocks report verified that and the April WASDE report reflected that as well. Looking at the annual numbers, USDA boosted 2023 feed and residual usage by 25 million bushels and ethanol usage by 25 million. The combination lowered 2023-24 ending stocks to 2.12 billion bushels. However, that is 762 million bushels more than the 2022-23 ending stocks. While corn usage grew by roughly 900 million bushels, corn production increased by 1.69 billion bushels.



So corn usage is fairly strong, but supplies are overwhelming, and that remains the challenge looking forward. The Prospective Plantings report showed fewer corn acres than both USDA and the trade expected, but expected corn production is still substantial. USDA's initial estimate for 2024 corn plantings was 91 million acres. The Prospective Plantings survey found farmers intend to plant 90 million acres of corn. Keeping the ratio of planting to harvested acres and the yield from the Ag Outlook Forum and combining that with the new estimates of corn area leads to an adjusted 2024 production estimate of 14.88 billion bushels, down 159 million from the earlier projection. Add that to the large corn stocks from 2023 and total corn supplies for the 2024 marketing year are projected to be north of 17 billion bushels.

If USDA were to stick with their Ag Outlook Forum 2024 corn usage estimates, then feed and residual usage is projected to be 50 million bushels higher, corn usage for ethanol would be steady, and exports would increase by 50 million. So total corn usage continues to grow, but it would still be below production. Production would exceed usage by roughly 180 million bushels, implying another year-over-year increase in ending stocks. Higher stocks tend to lead to lower prices and USDA's early estimate for the 2024-25 season-average price is \$4.40 per bushel, 30 cents below the current year's price.

While corn stocks are building a little slower than expected, soybean stocks are building a little faster. Looking at the 2023 crop, domestic crush of soybeans was held steady, seed and residual usage was reduced by 10 million bushels, and exports fell by 20 million.

2023-24 ending stocks are now set at 340 million bushels of soybeans, up 76 million from the 2022-23 final level.

Soybeans in 2024

Soybean planting intentions came in at 86.5 million acres, well below USDA's initial estimate, but slightly above trade expectations. Given the new acreage estimate, projected soybean production is slightly over 4.45 billion bushels, just below the 2021 record. At the Ag Outlook Forum, USDA outlined 2024 domestic crush demand at 2.4 billion bushels, with exports taking 1.875 billion bushels. If USDA held to those usage estimates now, 2024-25 ending stocks would grow to 409 million bushels, the highest since 2019-20. So both crops have growing usage, but even stronger production. The 2024-25 season-average price for soybeans is set at \$11.20 per bushel, down \$1.35 from the 2023-24 estimate.

Table 1. Corn supply and use. Sources: USDA-WAOB, USDA-NASS, calculations.

Marketing Year (2023 = 9/1/23 to 8/31/24)		2022	2023	2024
Area Planted	(million acres)	88.2	94.6	90.0
Yield	(bushels/acre)	173.4	177.3	181.0
Production	(million bushels)	13,651	15,342	14,881
Beginning Stocks	(million bushels)	1,377	1,360	2,122
Imports	(million bushels)	39	25	25
Total Supply	(million bushels)	15,066	16,727	17,028
Feed and Residual	(million bushels)	5,486	5,700	5,750
Ethanol	(million bushels)	5,176	5,400	5,400
Food, Seed, and Other	(million bushels)	1,382	1,405	1,405
Exports	(million bushels)	1,661	2,100	2,150
Total Use	(million bushels)	13,706	14,605	14,705
Ending Stocks	(million bushels)	1,360	2,122	2,323
Season-Average Price	(\$/bushel)	\$6.54	\$4.70	\$4.40

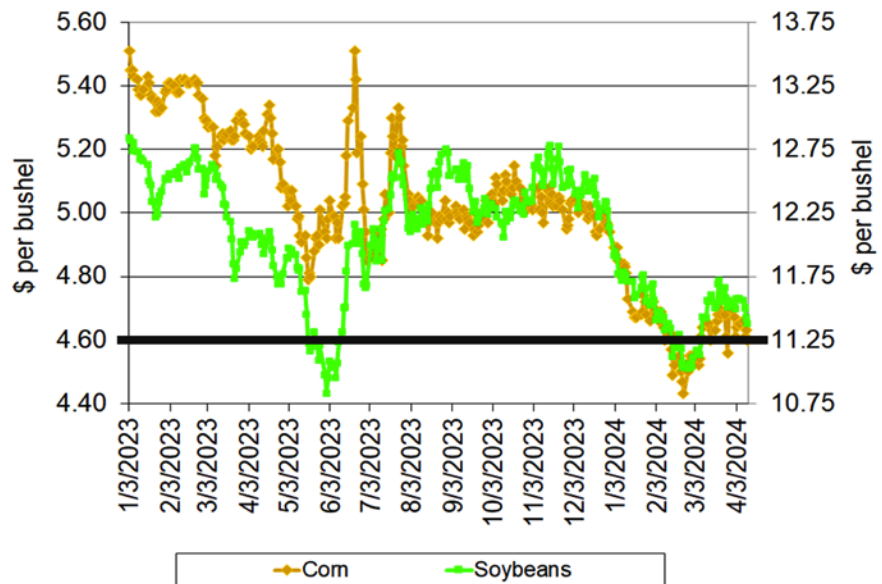
Table 2. Soybean supply and use. Sources: USDA-WAOB, USDA-NASS, calculations.

Marketing Year (2023 = 9/1/23 to 8/31/24)		2022	2023	2024
Area Planted	(million acres)	87.5	83.6	86.5
Yield	(bushels/acre)	49.6	50.6	52.0
Production	(million bushels)	4,270	4,165	4,454
Beginning Stocks	(million bushels)	274	264	340
Imports	(million bushels)	25	25	15
Total Supply	(million bushels)	4,569	4,454	4,809
Crush	(million bushels)	2,212	2,300	2,400
Seed and Residual	(million bushels)	101	113	125
Exports	(million bushels)	1,992	1,700	1,875
Total Use	(million bushels)	4,305	4,114	4,400
Ending Stocks	(million bushels)	264	340	409
Season-Average Price	(\$/bushel)	\$14.20	\$12.55	\$11.20

Price Projections

The string of USDA reports provided a slight boost to corn and soybean prices. Prior to the end of March, traders had been preparing for sizable stocks for both crops and the potential for larger projected supplies given early acreage forecasts. Figure 1 shows 2024-25 projected prices based on the futures markets. Since the beginning of the year, those price projections had worked their way lower. But the month of March provided a partial rebound. With estimated production costs at \$4.60 per bushel for corn and \$11.25 per bushel for soybeans, both crops have edged back to the positive side of returns. However, the profit outlook for this coming crop year is much tighter than the last three years and they could slip away quickly.

Figure 1. 2024-25 projected season-average prices (Derived from futures).



Listen to the [April 2024 Crop Market Outlook video](https://youtu.be/42Pq8qXhH8g), <https://youtu.be/42Pq8qXhH8g>, for further insight on outlook for this month.



When subtraction leads to larger pig crops

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

We prefer addition over subtraction. We add extra stuff to our shopping carts. We add more commitments to our calendars.

Farmers typically view “more as better.” Farmers add acres. They add animal numbers. Adding to an operation can help capture economies of scale. For example, building larger facilities takes more capital than smaller facilities, but investment per unit of capacity is typically lower. Larger facilities spread fixed costs across more animals—if producers operate the facility near capacity.

Pork producers are getting more pigs per litter. They’re also farrowing a higher percentage of their breeding herds. Those trends enable producers to add to pig crops by subtracting females from their breeding herds. But recent exceptional performance gains may not continue.

Understanding the trade-offs

Further gains in breeding herd efficiency could enable producers to subtract more females from their breeding herds, which would lower the cost per pig weaned.

However, suppose producers reduce their breeding herds. Further suppose either one of the two factors that have been improving breeding herd efficiency reverse. Producers could fall short of farrowing enough pigs to fill finishing facilities. That would spread fixed costs of finishing facilities over fewer hogs. Total cost per market hog would rise.

Data provide documentation

The March 1, 2024 US swine breeding inventory was 6.016 million head according to data producers provided to USDA’s National Agricultural Statistics

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

	United States			Iowa		
	2023	2024	2024 as % of '23	2023	2024	2024 as % of '23
Mar 1 inventory *						
All hogs and pigs	74,136	74,571	100.6	23,800	25,200	105.9
Kept for breeding	6,146	6,016	97.9	900	890	98.9
Market	67,990	68,556	100.8	22,900	24,310	106.2
Under 50 pounds	20,444	20,749	101.5	5,420	5,820	107.4
50–119 pounds	19,049	19,333	101.5	7,240	7,620	105.2
120–179 pounds	15,749	15,804	100.3	5,930	6,160	103.9
180 pounds and over	12,748	12,670	99.4	4,310	4,710	109.3
Sows farrowing **						
Sep–Nov	3,092	2,983	96.5	535	460	86.0
Dec–Feb ¹	2,952	2,875	97.4	480	445	92.7
Mar–May ²	2,941	2,915	99.1	470	465	98.9
Jun–Aug ²	3,040	2,987	98.3	480	470	97.9
Dec–Feb pigs per litter	11.02	11.53	104.6	11.45	11.80	103.1
Dec–Feb pig crop *	32,537	33,148	101.9	5,496	5,251	95.5

Full USDA report: <https://downloads.usda.library.cornell.edu/usda-esmis/files/rj430453j/q811n8305/s46573384/hggg0324.pdf>.

* 1,000 head; **1,000 litters; ¹ December preceding year. ² Intentions for 2024.

Service for the Quarterly Hogs and Pigs report (Table 1). This was down 2.1% from March 1, 2023 and the smallest March 1 breeding inventory since 2016. The March 1 US breeding herd peaked in 2020 at 6.475 million head.

Producers farrowed 2.875 million sows during December 2023-February 2024, down 2.6% from the previous year. The average pigs saved per litter nationally was 11.53, up 4.6% from 11.02 the year prior and the highest December-February pigs saved per litter ever. The 33.148 million head December 2023-February 2024 pig crop was up 1.9% from the year prior.

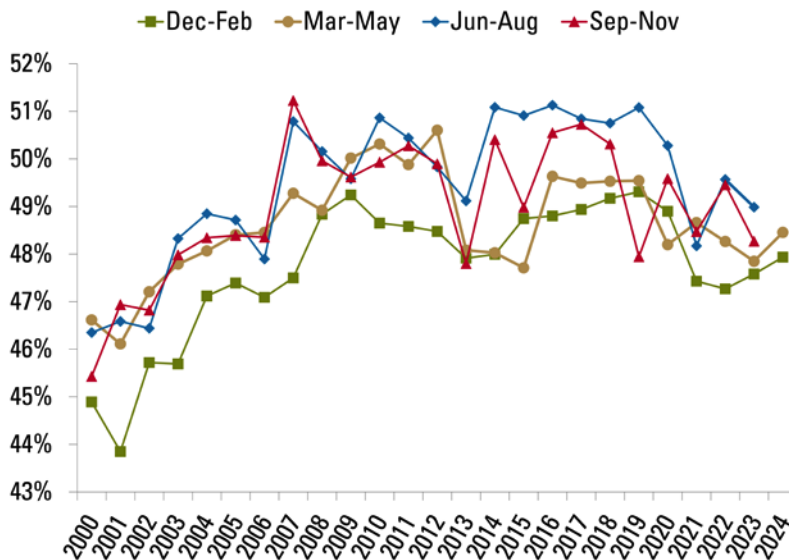
Given the surge in litter rates, producers could have trimmed the number of sows farrowing by 4.4% to 2.822 million and the December 2023-February 2024 pig crop would have still matched the December 2022-February 2023 quarter.

How many sows are enough?

Many factors influence litter rates. These include genetics, parity distribution, nutrition, management and disease. Improvements in these areas help producers continue getting more pigs per litter.

During December 2023-February 2024 producers farrowed 47.93% of the December 1, 2023 breeding herd (Figure 1). This was the highest breeding herd utilization ratio for this quarter since the December 2019-February 2020 farrowing

Figure 1. United States breeding herd utilization. Data source: USDA National Agricultural Statistics Service.



period.

The prior three years the ratio of the December-February sows farrowed to the December 1 breeding herd averaged 47.43%. At this ratio, an additional 64,000 sows would have been needed in the breeding herd to match the 2.875 million sows farrowed during the December 2023-February 2024 period.

Producers have made investments in facilities and equipment in recent years. Deciding to leave a new sow barn empty, or at reduced capacity, is difficult. Larger and more integrated producers likely have stronger incentives to retain their breeding herds at current levels, or cut them less.

Coordinating farrowing with finishing

Trimming breeding herd size with the expectation that a high breeding herd utilization and large gains in litter rates will

continue could shave costs. But suppose a producer trims the breeding herd, and then faces a disease outbreak that trims pigs per litter. The breeding herd could turn out too few pigs to fill finishing facilities. Operating finishing facilities below capacity spreads fixed costs over fewer hogs, which ups cost per head and erodes profit.

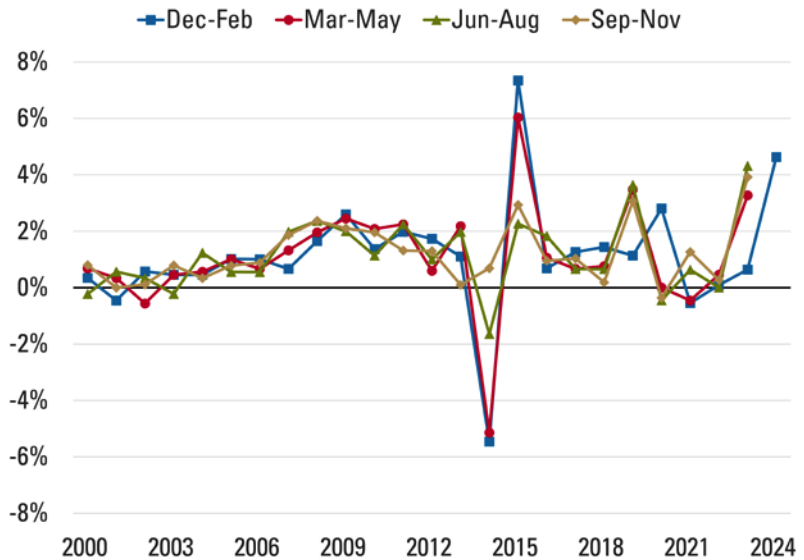
Sending a few more sows to market is not a profit-making strategy. According to the [Commodity Costs and Returns series for Farrow-Finish production](https://www.ers.usda.gov/data-products/commodity-costs-and-returns/), www.ers.usda.gov/data-products/commodity-costs-and-returns/, published by USDA's Economic Research Service, income from culls only accounts for about 2% of the total gross value of production. But breeding those extra sows avoids the risk of not farrowing enough pigs to fill finishing facilities.

Litter rate gains likely to slow

The last four quarterly litter rates were 11.36, 11.61, 11.66 and 11.53 for March–May 2023, June–August 2023, September–November 2023 and December 2023–February 2024, respectively. All were record pigs saved per litter for their respective quarters and represented year-over-year gains of 3.3%, 4.3%, 3.9% and 4.6% (Figure 2).

Let’s say the next four quarterly litter rates are 11.47, 11.73, 11.78 and 11.65 for March–May 2024, June–August 2024, September–November 2024 and December 2024–February 2025, respectively. These would all be record pigs saved per litter for their respective quarters but would only represent year-over-year increases of 1.0% which has been the average since 2000. Recent litter rates have been exceptional. The year-over-year changes have been exceptional.

Figure 2. Year-over-year change in United States pigs saved per litter. Data source: USDA National Agricultural Statistics Service.



Expect a slowing rate of increase going forward. If nothing else, we will be comparing to a high base period a year prior. This, however, does not mean litter rates will decrease.

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.

Table 2. Commercial hog slaughter projections and price forecasts, 2024-25.

	Year-over-Year Change In Commercial Hog Slaughter (%)	ISU Model Price Forecast, IA-MN Base Price, All Purchase Types (\$/cwt)	CME Futures (4/1/24) Adjusted for IA-MN Producer Sold Weighted Average Carcass Base Price for All Purchase Types Historical Basis (\$/cwt)
Apr–Jun 2024	0.29	93.85	92-96
Jul–Sep 2024	1.98	96.88	95-99
Oct–Dec 2024	1.49	80.15	78-82
Jan–Mar 2025	0.53	81.51	80-84



New Census shows Iowa agriculture is still dominated by family farms

By William Edwards, retired extension economist, agdm@iastate.edu

Every five years, the US Department of Agriculture carries out a complete survey of farms and farmers across the nation. The most recent one was conducted in 2022. The information that is collected and published serves a wide variety of purposes. One of the more important ones is to provide a snapshot of what farms and farmers at the national, state and county level look like and how they are changing over time. The Census of Agriculture definition for a farm is any operation that produced or could have produced \$1,000 of agricultural products, so many very small businesses are included.

One section summarizes characteristics of farms according to their type of legal organization. The categories are:

- Farm units operated as a sole proprietorship by a **single individual or family**.
- Farm units organized as a **partnership**. Most partnerships have multiple operators, who are often related to each other.
- Farm units organized as a **corporation**. The Census divides them into **family-owned** and **nonfamily-owned** corporations.
- **Other** farm units, which includes mostly farms held in a trust or an estate.

Table 1 in this article summarizes some key characteristics of Iowa farms, according to their type of organization. Partnerships and family-owned corporations are combined, because they have similar ownership structures and scale.

The vast majority (82%) of Iowa farms are operated by individuals or families. Another 15% are organized as partnerships or family corporations. Only 1% of Iowa farms are nonfamily corporations, while 3% fall into the “other” category.

Farm size

Individual and family farms tend to be smaller than other types. They operated only 295 acres, on average, and generated \$389,964 in gross income per farm in 2022.

The average family corporation and partnership operated 640 acres and generated \$1,334,502 in gross income in 2022. Nonfamily corporations operated only 370 acres, on average, but generated nearly the same gross income per farm unit as the family corporations and partnerships. Nonfarm corporations were more likely to specialize in intensive livestock production, which requires less land area. Eighty percent of their agricultural sales came from livestock, compared to only 37% for individual and family farms, and 46% for all farms.

Direct payments from state and federal government programs accounted for about 2% of gross farm income, averaging just over \$9,000 per farm. These payments are received for such purposes as incentivizing conservation practices, supporting low commodity prices and taking land out of production. Payments to non-operating landowners were not included in these totals.

Number of farmers

The Census of Agriculture also counts farm “producers,” or people who are active in the management of a farm unit. Many farm units have more than one active producer, including spouses, other related parties and unrelated individuals. The average Iowa farm had 1.81 producers, a third of whom were female. Not surprisingly, partnerships and family corporations included more producers, 2.35, while nonfamily corporations counted 2.51 producers each. In total, there were 157,531 farm producers in Iowa in 2022.

In addition, many farms hired outside labor. The average Iowa farm hired 0.83 employees. By category, this number ranged from 0.59 for individual and family farms to 2.65 for non-family corporations.

In general, the 2022 Census of Agriculture shows that Iowa agriculture is still dominated by

family and small multi-family farms. Combined, they operated 97% of the total acres and generated 97% of the total gross farm income in the state in 2022.

The full Census report can be accessed online, [2022 Census of Agriculture](http://www.nass.usda.gov/AgCensus/index.php), www.nass.usda.gov/AgCensus/index.php. Data are available for all states, and for each county within a state.

Table 1. Comparison of Iowa farms by type of organization, 2022 Census of Agriculture.
Source: USDA Census of Agriculture.

	Individual or Family Farms	Partnerships or Family Corporations	Nonfamily Corporations	Other (trusts, estates)	All Farms
Number of farms	71,127	12,721	832	2,231	86,911
Percent of total farms	82%	15%	1%	3%	100%
Land in farms, acres	20,979,662	8,147,424	308,091	542,988	29,978,165
Percent of total acres	70%	27%	1%	2%	100%
Average acres per farm	295	640	370	243	345
Percent of land rented	49%	54%	44%	15%	50%
Gross agricultural sales, \$ million	\$26,131	\$16,380	\$1,093	\$332	\$43,935
Other farm income, \$ million	\$1,055	\$393	\$12	\$71	\$1,531
Government payments, \$ million	<u>\$551</u>	<u>\$204</u>	<u>\$9</u>	<u>\$21</u>	<u>\$785</u>
Total gross income, \$ million	\$27,737	\$16,977	\$1,114	\$424	\$46,251
Percent of total gross income	60%	37%	2%	1%	100%
Average gross income per farm	\$389,964	\$1,334,502	\$1,338,585	\$189,918	\$532,160
Percent of sales from livestock	37%	57%	80%	17%	46%
Government payments per farm	\$7,748	\$16,013	\$11,031	\$9,205	\$9,027
Percent of gross income from government payments	2%	1%	1%	5%	2%
Number of farm producers	120,818	29,898	2,085	4,730	157,531
Percent of producers who are female	34%	30%	16%	35%	33%
Number of producers per farm	1.70	2.35	2.51	2.12	1.81
Number of employees per farm	<u>0.59</u>	<u>2.02</u>	<u>2.65</u>	<u>0.89</u>	<u>0.83</u>
Number of producers and employees per farm	2.29	4.37	5.16	3.01	2.64



Unraveling other disappearance—the feedlot inventory fudge factor

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

Supply and demand drive cattle prices. USDA’s National Agricultural Statistics Service compiles a wealth of information on cattle supply from surveys of producers and publish it in Cattle on Feed reports.

Using a balance sheet approach ensures that estimates are as accurate as possible. Cattle on feed at the beginning of the month, plus placements, minus fed cattle marketings and other disappearance should equal cattle on feed at the beginning of the next month.

Other disappearance includes death loss, cattle movement from feedlots to pasture, and shipments to other feedlots for further feeding. [Cattle Price Reactions to Cattle on Feed Reports](https://downloads.usda.library.cornell.edu/usda-esmis/files/z316q156s/8c97n9729/8g84p852g/prllan24.pdf), <https://downloads.usda.library.cornell.edu/usda-esmis/files/z316q156s/8c97n9729/8g84p852g/prllan24.pdf>, can be large. That makes accounting for even subtle inventory changes important.

Feedlot flexibility complicates head counts

During January 2024, other disappearance from US feedlots with a capacity of 1,000 head or more totaled 81,000 head (Figure 1). This was 18,000 head or 29% above January 2023 and the highest since October 2014. February 2024’s other disappearance totaled 56,000 head, 3% below February 2023.

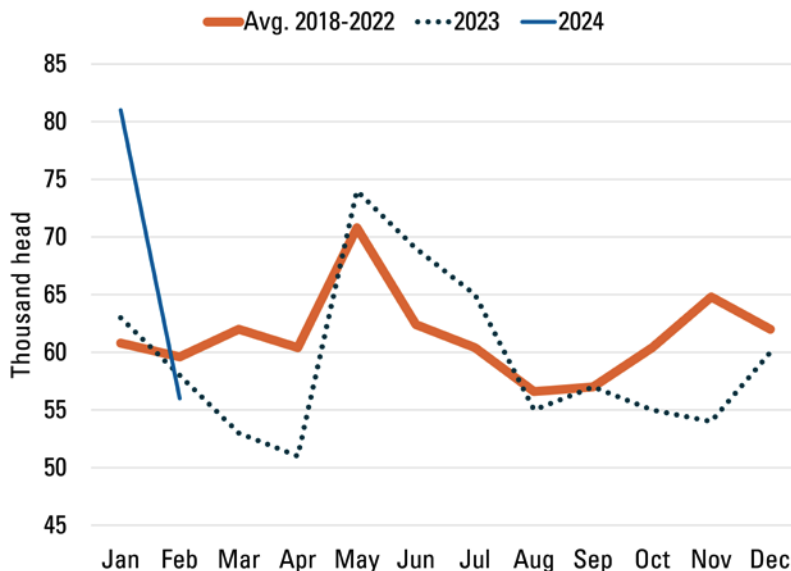
USDA asks survey respondents to only include “steers and heifers being fed a ration of grain, silage, hay and/or protein supplement for the slaughter market that are expected to produce a carcass that will grade select or better” in their on-feed inventories. This hopefully keeps cattle intended to go to pasture from appearing on cattle on-feed inventories. Those cattle will be included in placements when they go to a finishing feedlot and then on that feedlot’s inventory.

Similarly, feedlots backgrounding cattle for sale as feeders, or for further finishing in another feedlot, should not include these cattle in their on-feed inventory. USDA will include those cattle as placements when they go into a finishing feedlot. Including

them as on-feed inventory in the backgrounding lot would overstate market-ready and soon to be market ready cattle supplies. If backgrounding cattle were incorrectly included in on-feed inventories, they would not appear as fed cattle marketings when they were sold as feeders or finished in another feedlot. They would end up in the selling or transferring feedlot’s other disappearance. The larger the other disappearance, the more complicated the supply analysis becomes.

One exception to only including cattle intended for slaughter in the on-feed inventory may exist. Producers sometimes pull heifers out of feedlots for breeding. Think of these as two-way heifers—they are available for finishing or breeding. They

Figure 1. Other disappearance. 1,000+ head capacity feedlots, United States, monthly. **Data source: USDA National Agricultural Statistics Service.**



should be included in on-feed inventories until they go to pasture. Then they will appear in other disappearance. This is why other disappearance usually peaks in May each year as grass becomes more available.

Feedlots developing heifers and selling them as replacements is not new and is not widespread, but is a business opportunity. This is especially the case when replacement heifer values are high.

Clue on cyclical expansion pace

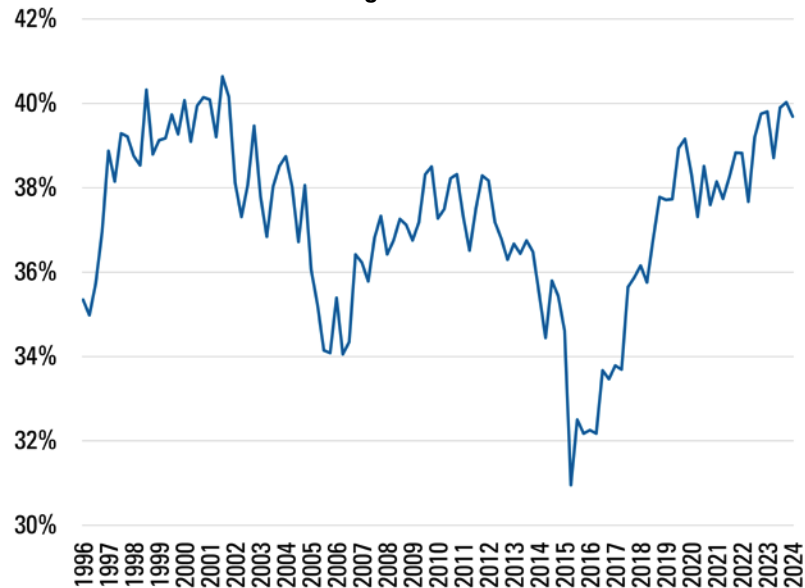
Heifers moving out of feedlots for breeding will not hasten expansion significantly. At this point the question should not be when will producers start rebuilding the herd? Rather, it should be when will producers stop liquidating?

Feedlots developing more heifers would help explain why both heifer retention for beef cow replacement and heifer slaughter are both low but the number of heifers on feed is high (Figure 2). The next Cattle on Feed report will have the quarterly breakdown of steers and heifers on feed as of April 1, 2024. That will give clues on heifer disposition.

Conditions can change marketing plans

Feedlot closeouts were deep in the red in December and January. Marginal cost of gain changes rapidly. In addition to feed, interest and out-of-pocket yardage costs are included in marginal cost. Delays in marketing, at over 8% feeder

Figure 2. Heifers on feed as a percent of total cattle on feed. 1,000+ head capacity feedlots, United States, beginning of quarter. **Data source: USDA National Agricultural Statistics Service.**



cattle loan interest rates, are not insignificant. Marketing cattle sooner saves costs. Furthermore, opportunity cost of pen space was high as summer margins looked more profitable.

In the slaughter cattle section of the Iowa Weekly Cattle Auction Summary report, several lots have been denoted as "return to feed" so far this year. These cattle would be other disappearance from feedlots that marketed them and placements for feedlots that put them back on-feed.

Other disappearance includes death loss. January's wide temperature and precipitation gyrations stressed cattle and may have hiked feedlot death loss.

Disappearance is correct but residual may have more meaning

A fudge factor is an arbitrary mathematical term inserted into a calculation in order to

arrive at an expected solution, or to compensate for errors, especially underestimation.

Cattle on Feed survey results are subject to mistakes in reporting. Cattle can be placed in and marketed out of feedlots every day. They can be hard to track.

Other disappearance is the residual that makes the number of cattle on feed at the beginning of the month plus placements minus marketings during the month equal to the number of cattle on feed at the beginning of the next month.

The more accurate the numbers are that producers provide to USDA for Cattle on Feed surveys, the smaller the other disappearance fudge factor should be, which should make market implications from Cattle on Feed reports more reliable.



Land values, expectations, and land affordability

By Rabail Chandio, extension economist, 515-294-6181 | rchandio@iastate.edu

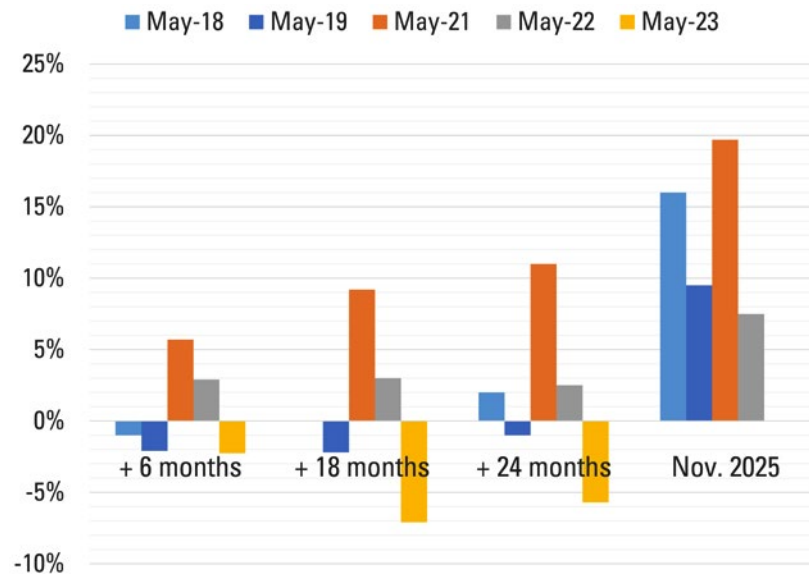
Land markets are changing directions after recent record highs, and agricultural professionals are mixed on the outlook for land values. While many expect values to fall before they rise again, over half the respondents from the 2023 ISU Land Value Survey expect land values to increase over the next year. This was not the first time such an expectation came to surface.

Expectations about land values

Figure 1 shows the land value expectations since May 2018 provided by the attendees of the Soil Management and Land Valuation (SMLV) conference held annually in May. The attendees were asked about their expected land values 6 months, 18 months, and 24 months into the future, in addition to common checkpoints in the future of November 2025 and November 2040. The expectations for November 2040 in every iteration of the survey predict an increase in land values between 40-60% from current values. Shorter-run expectations, transformed into percent changes for comparability, are displayed in Figure 1.

When the expectations for 2018 and 2019 were collected, Iowa land values reflected

Figure 1. Expected short-term changes in Iowa land values according to agricultural professionals. Source: Land value predictions by attendees of the annual ISU Soil Management and Land Valuation conference.



a downward trend and had experienced a decline for four and five consecutive years, respectively. So, the predictions about land values in these two survey years are naturally colored by the persistent observed declines, which were expected to continue for the next two or three prediction periods (i.e., 6 months, 18 months, and 24 months into the future), with a rosier outlook a little further out in 2025.

Interestingly, land value predictions from May 2023 also show a decline expected in the next three periods (6 months, 18 months, and 24 months into the future) ending in November 2025. In a way, last year's land value predictions are similar to 2019 despite very different economic

conditions. On the other hand, the 2021 responses were very optimistic, predicting continual large increases as the onset of the pandemic brought, with the 2022 predictions tilting towards a more cautious optimism with smaller increases as pandemic support pulled back and interest rate increases were announced when predictions had to be made in May.

Such expectations, while reflective of the sentiment at the time, also influence market dynamics as they feed into the decision-making processes of buyers and sellers. When market data and forecasts suggest declining land values, sellers might be prompted to lower their expectations and accept lesser offers, while buyers

adjust their perceived value of land downwards, thus affecting actual transaction prices.

Figure 2 shows annual changes in Iowa land values between 2018 and 2023 from three sources: ISU Land Value Survey (surveyed in November), the January edition of the Federal Reserve Bank of Chicago's Ag Letter publication, and REALTORS® Land Institute's March edition. Chicago Fed and ISU surveys show decreases in land values over 2019, and Chicago Fed and RLI show decreases in land values over 2023. ISU survey shows high increases in land values in 2021 and 2022 and a very mild increase in 2023. Some of the differences among these results are due to the timing of the various surveys.

Long-term thinking

Despite the short-term changes that may increase or decrease, investment in land remains a constant hedge against inflation to most, depicted in strong value expectations in 2030 and 2040. Even if that particular year in the future does not show an increase in land values, zooming out enough will show an upward trend in land values. Figure 3 shows the percentage change in land values that have been averaged over the previous 20 years. Note that except for a negative value (i.e., decrease in longer-term averaged land values) in three years at the end of the century, land values have always increased over a couple of decades. The

Figure 2. Annual changes in Iowa land values across three surveys. Sources: ISU Land Value Survey, Chicago Fed's Ag Letter January, REALTORS® Land Institute of Iowa survey.

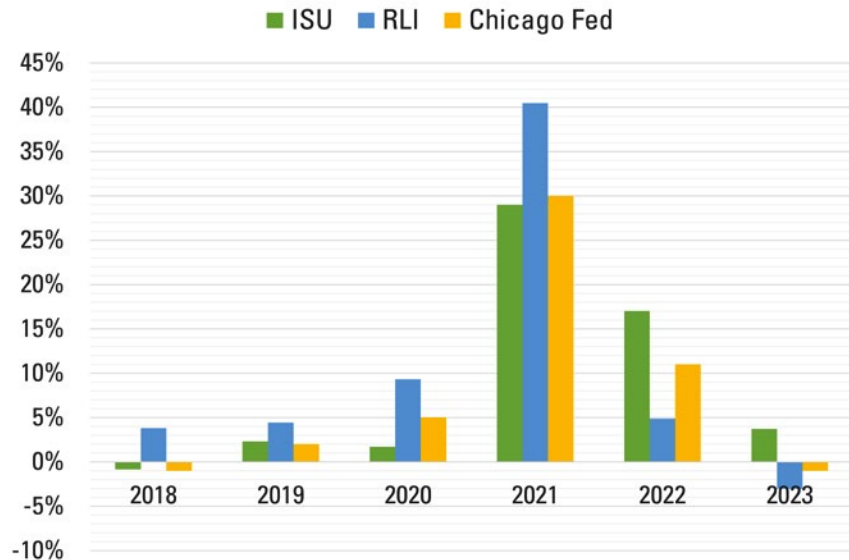
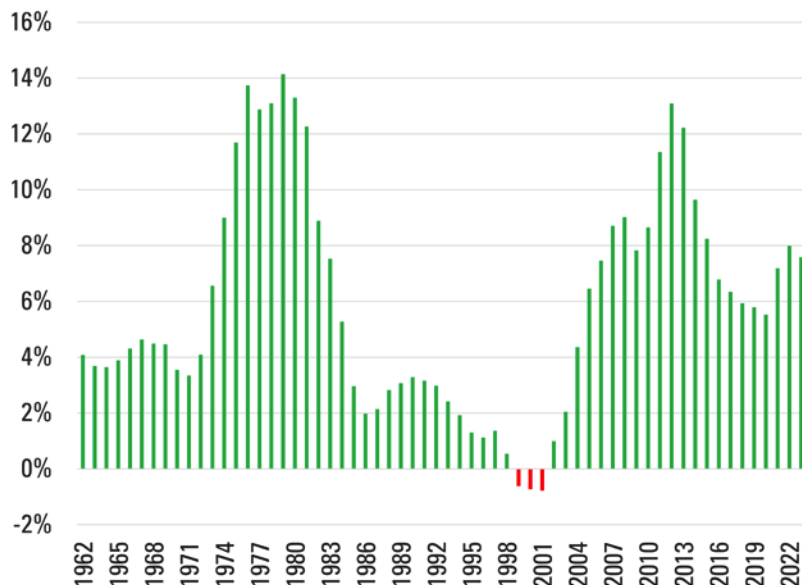


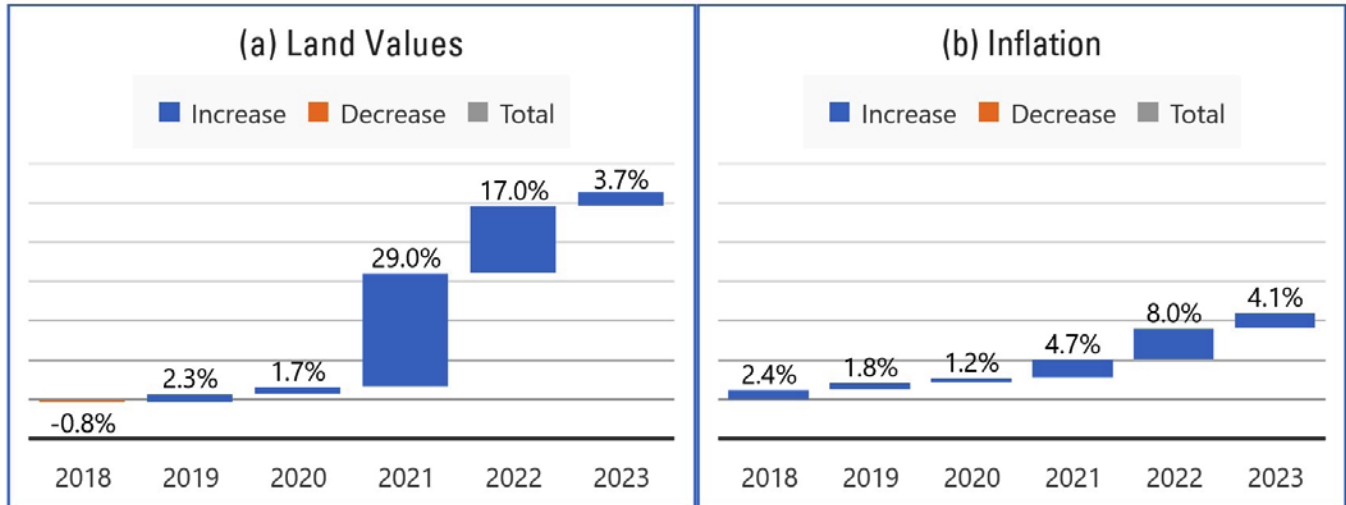
Figure 3. Percent change in 20-year moving average of Iowa land values. Source: ISU Land Value Survey.



instances where land values decreased even over the long horizon of 20 years are a function of the 1980s farm crisis, leading to less than 2% decreases in the long-term land values for three years. When changes in land values are compared to inflation rates (see Figure 4), the increase in land values beats inflation quite easily. While inflation-adjusted land values would surely show singular instances of decreases, their long-term average also shows a consecutive positive change every year since 2004. The decline in land values in the last decade, when averaged over the long term, is outweighed by the rise in values.

Figure 4. Annual percentage change in (a) Iowa land values and (b) inflation. Sources: ISU Land Value Survey, U.S. Bureau of Labor Statistics.

Note: The figure shows a side-by-side comparison of the change in inflation rate and change in nominal Iowa land values between 2018 and 2023 on a scale of -10% to 60%. The graphic shows that the increase in land values during this period of quite high inflation was more than twice the increase in inflation.



Changes in the land market

While land values will pick back up again given enough time and generally appreciate more than inflation, their fluctuations still significantly affect the prospective buyers and sellers currently active in the land markets. By extension, these changes also impact farm managers, rural appraisers, real estate brokers, and others interested in the land market, making it imperative to understand the drivers of land markets and be prepared for the upcoming changes.

We look forward to learning about the direction of the market, the magnitude of expected changes in land values and commodity prices, as well as the major movers in the Iowa land markets at the next [Soil Management and Land Valuation conference](http://www.regcytes.extension.iastate.edu/smlv/), www.regcytes.extension.iastate.edu/smlv/, in Ames, Iowa, on Wednesday, May 15th, 2024.

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2024 96th Annual ISU Soil Management Land Valuation Conference

REGISTRATION OPEN! This year's ISU Soil Management Land Valuation Conference will be held in person at Scheman Building in Ames, May 15, 2024 from 8:15 am – 4:30 pm. The registration fee is \$150.

Sponsored by the ISU College of Agriculture and Life Sciences and ISU Extension, the Soil Management and Land Valuation Conference is intended for farm managers, rural appraisers, real estate brokers, and others interested in the land market in Iowa. This is the longest-running conference at Iowa State in research and extension, and 2024 will mark the 96th annual meeting in this series. It is designed for anyone interested in agricultural land, land management, and land valuation. The program is planned each year by the ISU Extension Economics team in the Department of Economics at Iowa State University.

[View the final agenda and conference registration website](http://www.regcytes.extension.iastate.edu/smlv/), www.regcytes.extension.iastate.edu/smlv/. For questions regarding the conference content, please contact Rabail Chandio, 515-294-6181 | rchandio@iastate.edu.



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