Why USDA beef supply and use forecasts change over time

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Niels Bohr, Nobel Prize winner in Physics, said, “Prediction is very difficult, especially if it’s about the future.” He’s correct. But that shouldn’t stop us from trying.

Not only is predicting the future difficult, it’s often thankless. Forecasters rarely get credit for successful predictions since outcomes can appear obvious in hindsight. But forecasters get bashed really hard for predictions that do not come to fruition.

Even though predictions may well turn out wrong, the act of forecasting has value in itself. Envisioning the future helps develop a plan. A well thought out plan can be a path to success. The earlier you develop a plan, the better. However, the farther into the future you look, the less reliable forecasts are. That makes contingency planning important.

Expectations are what we think will happen. Reality is what actually occurs. Forecasters hope these two will match. Often, they do not. As time passes, variables change. The earlier a forecaster can identify changes, and adjust, the better.

Savvy forecasters are rarely shocked by anything and do not make knee jerk changes to their predictions.

Delayed herd expansion and other factors boost beef supply


USDA's May 12, 2023 WASDE report had 2024 beef production down 8.1% compared to 2023 (Figure 1). USDA's July 12, 2023 forecast for 2024 beef production declined further to down 9.0%. Subsequent forecasts rose steadily. USDA's May 10, 2024 WASDE forecast 2024 beef production down only 1.4% from 2023. Why? Heifers earlier thought to beef cow replacements are going into feedlots. Beef cow slaughter is higher than previously projected. Dressed weights are tipping the...
scales heavier. All boost beef production. Further adding to supplies is beef imports rising faster than expected and exports lagging earlier projections.

While 2024 beef production and supply have exceeded forecasts, prices have also risen. In May 2023, USDA forecast first-quarter 2024 slaughter steer prices (5-Area, direct, total all grades) at $175/cwt. This would have been $14.10/cwt or 8.8% higher than in the first quarter of 2023. First quarter 2024 prices averaged $181.03/cwt. This was $20.11/cwt or 12.5% higher than 2023’s first quarter. Selling more volume at higher prices signifies rising demand.

What’s the outlook for 2025? 
On May 10, 2024, USDA released its first forecast for 2025. Beef production is projected at 25.187 billion pounds, down 5.5% from the current 2024 forecast of 26.662 billion pounds. Beef exports are expected to be 2.5 billion pounds which would be down a whopping 11.3% from 2024’s forecast of 2.818 billion pounds. USDA forecasts 2025 beef imports at 4.225 billion pounds, up 1.3% from the 4.171 billion pound estimate for 2024.

Lower beef supply in 2025 will lead to a reduction in domestic per capita beef use to 55.6 pounds per person on a retail-weight basis. This would be down 2.7 pounds or 4.6% from 2024. USDA is expecting 2025 slaughter steer prices to rise to $188/cwt, up 2.4% from the current forecast for 2024 of $183.51/cwt.

Expect more changes
These forecasts are not set in stone. Forecasts rely on historical relationships and consider current conditions, existing laws, regulations and policies, normal weather patterns and underlying trends. All of those drivers can, and do, change between forecasts. Supply or demand shocks can appear unexpectedly at any time. Uncertainty in global markets makes beef exports and imports particularly difficult to forecast.

Beef supply and use projections for both 2024 and 2025 will change. USDA re-forecasts each month to reflect new information and changing conditions. This is how USDA’s forecasting success should be measured. Not by achieving 100% accuracy, but by how well they reflect changing market fundamentals.

USDA forecasts are important because farmers and agriculture businesses use them in production and marketing decisions. Ability to make informed decisions, based on timely and accurate forecast information, can improve profits. Policymakers consider forecasts in evaluating policy options and making decisions. Futures traders often adjust positions based on USDA forecasts.

Why do USDA and private analyst forecasts sometimes differ?
Private analysts often use USDA forecasts as benchmarks for their own forecasts. Private analysts, however, can change how they make forecasts whenever they want. USDA has set guidelines for making forecasts. Discrepancies often occur between USDA and private forecasts. That’s okay. This can help in contingency planning. Composite forecasts can help producers develop their own expectations.
May is the month when most of the corn and soybean crops are planted and when USDA provides the first official update on projections for the new crops. The weekly Crop Progress reports document planting pace, which is often used as a signal about potential production. The World Ag Supply and Demand Estimates (WASDE) report summarizes the usage projection changes since the Ag Outlook Forum. The combination of these reports this year have been supportive of corn prices, but mixed for soybeans.

The planting pace for both corn and soybeans started out very quickly, like last year, but has been delayed by a series of storms over the past two weeks. Figures 1 and 2 show the national planting pace data for corn and soybeans, respectively, on an annual basis since 1980. The light blue shaded area displays the range in planting pace, with slower pace towards the right of the graphs. For corn, planting was the slowest in 1983 and 1984 during April and early May. The 2019 corn crop set the slowing pace starting in mid-May. This year, national corn planting is running slightly below last year’s and the five-year average. However, it is good to see half of the nation’s corn crop is already in the ground. The years with the most similar corn planting progress to 2024 are 2009, 1996, and 2002. The national yield for the 2009 crop was above trendline, while 1996 was at trend and 2002 was below. Thus, analog years don’t provide a strong signal on production yet.

For soybeans, the early pace matched last year’s strong start, but the same weather delays have pushed planting progress back to near the five-year average. Searching for analog years here, the closest
ones are last year, 2012, and 2020. And again, the signals are mixed. The 2020 soybean yield exceeded trend, whereas 2012 was well below with the drought that year and 2023 was slightly below trend.

For the May WASDE report, USDA always stays with projections of trendline yields. Given the acreage shifts reported in the March Prospective Plantings report, those yields will lead to large crops. For corn, projected production in 2024 now stands at 14.86 billion bushels, which would be nearly 500 million bushels below last year’s record. For soybeans, 2024 projected production is 4.45 billion bushels, nearly surpassing the record set in 2021 and roughly 300 million bushels above last year. Projected supplies are once again ample.

Market traders were watching the WASDE report to see how USDA would adjust crop usage. The gray boxes in Tables 1 and 2 highlight the demand sides of the corn and soybean markets. For corn, 2023 was a bounce-back year. Production and usage rebounded higher, but the production gain greatly exceeded the usage gain and ending stocks swelled. The May update reduced the swelling a bit. Both ethanol and export usage for corn have run a bit quicker than USDA expected. Thus, USDA increased both categories by 50 million bushels each, lifting overall corn usage for the 2023 crop to 14.705 billion bushels and reducing the projected 2023-24 ending stocks to 2.022 billion bushels. But even with the reduction in stocks, USDA lowered its 2023-24 season-average price estimate to $4.65 per bushel.

For 2024, USDA has production falling and usage continuing to climb, but production still exceeds usage. Compared to the corn usage projections released at the Ag Outlook Forum, the latest update was encouraging. USDA continued the boost to the ethanol and export lines, adding 50 million bushels to each. Those additions bring total projected corn use to 14.805 billion bushels, just 55 million bushels below projected production. That limited the growth in ending stocks, with 2024-25 stocks set at 2.102 billion bushels. However, USDA stuck with the same projection for the 2024-25 season-average price at $4.40 per bushel, down 25 cents from the previous year and down $2.14 from 2022. Where the 2023 crop year saw greater corn production and usage, the soybean market was working with fewer bushels and lower usage. While domestic usage has been growing with stronger biofuel production using soybeans, exports have taken a significant step back, dropping approximately 300 million bushels year-over-year. The May update didn’t include any adjustments to 2023 soy use, leaving 2023-24 ending stocks at 340 million bushels, up 76 million from the previous year. USDA also maintained its 2023-24 season-average price estimate at $12.55 per bushel, down $1.65 from the previous year.

The 2024 soybean year shows a bounce-back in production and usage, like corn had 2023. With production projected to be roughly 300 million bushels higher, the soy market hopes for a similar surge in usage. USDA’s outlook does have domestic crush and exports rising in 2024, but the surge can’t match the production growth. Compared to the Ag Outlook Forum estimates, USDA increased crush by 25 million bushels, but lowered seed and residual usage by 15 million and exports by 50 million. Soybean usage is increasing, to 4.36 billion bushels, but that is still 90 million bushels below expected production. Thus, the projection for 2024-25 ending stocks shoots up to 445 million bushels and the 2024-25 season-average price estimate sits at $11.20 per bushel, a decline of $1.35 per bushel. A $3 per bushel drop in prices over a two-year period is a painful adjustment.

Current futures are reflecting the recent delays in planting and have built in a weather premium for both markets. That premium is the big difference between projected profits or losses right now. At USDA’s current price estimates, the 2024 crops are projected to lose a bit of money. Iowa State University’s 2024 production cost estimates were roughly $4.60 per bushel for corn and $11.25 per bushel for soybeans. So, $4.40 corn and
$11.20 soybeans come up a bit short. However, the weather premiums in the futures markets have boosted the futures-based outlook on season-average prices for 2024-25 to the $4.75–4.80 per bushel range for corn and the $11.60–11.80 per bushel range for soybean. The weather premiums change small losses into small gains. While prices aren’t what they were a couple of years ago, it is good to see a little potential profit in the markets currently.

Listen to the May 2024 Crop Market Outlook video, https://youtu.be/pts6mRkxWJ0, for further insight on outlook for this month.
Iowa Legislature passes many laws of interest to landowners and agricultural producers
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The Iowa Legislature had a busy 2024 session, passing 187 bills through both the House and the Senate. This article reviews the enrolled bills of most interest to agricultural producers and landowners. Some of these bills still await the Governor’s signature. Most are effective July 1, 2024.

Expansion of Iowa’s Recreational Use Statute (HF 35)
HF 35 expands the liability protections of Iowa’s Recreational Use Statute, Iowa Code Chapter 461C, to apply to private railroad right-of-ways or crossings incorporated into or used as part of a recreational path or trail. It also expands covered recreational activities to include bicycle riding, jogging, and walking.

This recreational use statute, created to encourage private landowners to make their land and water open to the public for recreational purposes, generally provides that owners of property used for the listed recreational purposes do not owe a duty of care to keep the premises safe or to provide warnings of dangerous conditions, as long as they do not charge a fee for admission to their property.

The new bill allows the owner or lessee of the homestead or secure farmstead area to seek from a district court a two-year injunction to prevent RPA pilots from harassing them by controlling a flight over their property. Attorney fees may also be awarded.

The bill was passed by the Legislature on April 2, 2024, and signed by the Governor on May 3, 2024. It will become effective July 1, 2024.

Landowner Deer Hunting License Expansion (HF 2015)
Current law allows resident landowners or tenants to secure two special deer hunting licenses for themselves or family members without charge. The licensee, however, must first designate the season of use for each license secured. This bill allows the license to be sold to non-residents for a fee of at least $75. Any images, sounds, or data recorded in violation of the law must be destroyed.

Trespass by Remotely Piloted Aircraft (HF 572)
This bill prohibits the use of remotely piloted aircraft (RPA), sometimes called UAVs or drones, over a homestead or over that part of a farmstead where agricultural animals are kept (secure farmstead area). A homestead includes a home that is used as a principal residence and up to 400 feet of surrounding property. The secure farmstead area includes open feedlots, buildings, and up to 400 feet of surrounding property.

The newly created criminal offense of intrusion, which is a simple misdemeanor, is committed if a person knowingly flies an RPA over a homestead or a secure farmstead. The newly created criminal offense of surveillance, which is a serious misdemeanor, is committed if the RPA is equipped with a camera or other electronic equipment for recording images, sounds, and data. If either crime is committed by a person who has been previously convicted of the offense, the penalties are enhanced. A simple misdemeanor is punishable by confinement for no more than 30 days and a fine of at least $105 but not more than $855. A serious misdemeanor is punishable by confinement for no more than one year and a fine of at least $430 but not more than $2,560. Any images, sounds, or data recorded in violation of the law must be destroyed.

Excepted from the prohibition are those flying with the consent of the owner, those flying for commercial or agricultural use in compliance with FAA rules, those flying the RPA more than 400 feet above the ground, utility companies, government entities, railroad companies, those collecting weather data, and the owner or lessee of the homestead or secure farmstead area.

The bill was passed by the Legislature on April 2, 2024, and signed by the Governor on May 3, 2024. It will become effective July 1, 2024.
used in any open season using the method authorized for that season. Only one deer can be harvested for each license.

This bill was passed by the Legislature on March 19, 2024, and signed by the Governor on April 10, 2024. It will be effective on July 1, 2024.

**Allowing ATVs and UTVs on State Park Roadways (HF 2237)**

This bill allows a registered all-terrain vehicle or off-road utility vehicle to be operated on state park road systems, including anywhere within the boundaries of a state park that a motor vehicle required to be registered under chapter 321 is authorized to operate.

This bill was passed by the Legislature on March 25, 2024, and signed by the Governor on May 1, 2024. It will be effective July 1, 2024.

**Increased Poultry Processing Opportunities (HF 2257)**

This bill was proposed by the Iowa Department of Agriculture and Land Stewardship to increase processing opportunities for small-scale poultry processors and producers. The bill applies the same standards in place for red meat processing to poultry processing, allowing state poultry processing facilities to perform both official inspected and custom-exempt processing at the same facility. Current law requires poultry processors to choose between doing only official or only custom processing.

This bill was passed by the Legislature on March 19, 2024, and signed by the Governor on May 1, 2024. It will be effective July 1, 2024.

**Increasing Fines for Trespassing While Hunting (HF 2310)**

The bill increases the fines for those who trespass while hunting. Any wildlife taken while committing the trespass will also be subject to seizure. The fines for trespassing while hunting increase from $260 to $500 for the first violation, from $645 to $1,000 for a second violation, and from $1,285 to $1,500 for a third or subsequent violation.

This bill was passed by the Legislature on April 1, 2024, and signed by the Governor on April 19, 2024. It will be effective July 1, 2024.

**Liability Protection for Firearm Hold Agreements (HF 2421)**

This bill authorizes a federal firearms licensee to enter into a firearm hold agreement with the owner of a firearm. Under such an agreement, the licensee will temporarily store the firearm and receive immunity from civil liability for related acts or omissions resulting in the personal injury or death of a person. This immunity does not extend to unlawful acts committed by the licensee. This is a bill promoted by mental health advocates that is intended to encourage the prevention of suicide by firearm. Many other states have passed similar legislation.

This bill was passed by the Legislature on April 17, 2024, and signed by the Governor on May 1, 2024. It will be effective on July 1, 2024.

**Restricting the Sale and Distribution of Consumable Hemp Products (HF 2605)**

When the Legislature passed the Iowa Hemp Act in 2019, it legalized the sale and distribution of hemp, which was defined as cannabis having a maximum concentration of no more than .3 percent THC. This was the federal standard codified in the 2018 Farm Bill. Any plant with a THC concentration above .3 percent continues to be defined as marijuana, a Schedule I substance. The Iowa Hemp Act also authorized the manufacture and sale of consumable hemp if regulations issued by the Department of Health and Human Services in 2021 are followed. Hemp products cannot be inhaled or smoked.

Since the regulations were implemented, manufacturers have been purchasing legal hemp and using those plants to produce consumable hemp products with THC amounts capable of producing intoxicating effects. Low-concentration hemp plants can yield high THC consumable products, such as drinks and edibles, which are legal in Iowa and not subject to age restrictions.

The new bill restricts the THC level in consumable hemp products to 4 milligrams per serving and 10 milligrams per container. Additionally, it restricts the sale of these consumable hemp products to those who are 21 and older and requires written notices warning consumers of the risks associated with the products. Finally, the new law will increase penalties. For example, it creates
a civil penalty not to exceed $10,000 per day for a person who is engaged in the retail sale of a consumable hemp product and has failed to register with the Department of Health and Human Services (Retailers and manufacturers of consumable hemp must register).

This law was passed by the Legislature on April 2, 2024. It has not yet been signed by the Governor. If enacted, it will go into effect July 1, 2024.

**Restoring the Capital Gain Exclusion for the Sale of Breeding and Dairy Livestock (HF 2649)**

HF 2317, passed in 2022, limited the Iowa capital gain deduction to apply to gain from the sale of “Real property used in a farming business,” beginning in tax year 2023. Except for a narrow provision allowing retired farmers to exclude the capital gain from the sale of breeding or dairy livestock when they liquidated their herds, the law eliminated the long-standing capital gain exclusion for the sale of livestock for non-retired farmers.

The 2024 bill restores prior law, allowing those who cull dairy or breeding livestock that have been held for the required period to exclude capital gain from the sale of that livestock from Iowa income. This law applies to those farmers who earn more than 50 percent of their gross income from farming. The bill applies retroactively to include the 2023 tax year.

Those taxpayers who are eligible to amend their 2023 return to claim this deduction must wait for the Iowa Department of Revenue to amend the Iowa Form 100A to allow this retroactive change. Once the form is ready, the amended return must be filed on paper.

Note: Another bill related to HF 2317, HF 2666, was not enacted. This bill would have allowed retired farmers whose land is owned by an LLC, partnership, trust, or S corporation to qualify for the retired farmer rental income exclusion if they otherwise meet the requirements. Although this bill unanimously passed the House, it was not brought before the Senate for a vote.

The bill was passed on April 19, 2024, and signed by the Governor on May 15, 2024. It will apply retroactively to the 2023 tax year.

**Enhanced Reporting and Penalties for Foreign Ownership of Agricultural Land (SF 2204)**

Iowa’s law respecting the ownership of agricultural land by foreign (non-U.S.) entities or nonresident aliens continues to be among the most restrictive in the country. This bill seeks to enhance the reporting and accountability associated with the law. Currently, a foreign government or business or nonresident alien that owns agricultural land must only file a biennial report with the Secretary of State’s office. Although many restrictions prevent these entities from acquiring agricultural land, some exceptions do apply. One exception allows the foreign owners to purchase up to 320 acres of agricultural land for a nonfarming purpose within five years.

The bill requires foreign purchasers of agricultural land to register with the Secretary of State’s office, in addition to continuing to file biennial reports. The registration must include the identity of the owners, the purpose for which the land will be used, the authority under which they are purchasing the property, and all other interests in agricultural land totaling 250 acres or more. Those currently owning agricultural land have 180 days to register. Registration reports and biennial reports are confidential and not available to the public. They may, however, be accessed by the Attorney General, the Governor, and the General Assembly for public policy purposes.

The bill requires the Secretary of State to create an annual summary of registrations and biennial reports. The bill also gives the Iowa Attorney General the right to subpoena records and require compliance with law. Finally, the law enhances penalties associated with violations. The civil penalty for failing to timely file a registration is increased to an amount not more than 25 percent of the county’s assessed value of the subject agricultural land for the previous year for “each offense.” Additionally, the civil penalty for failing to timely file a biennial report or filing false information in such report is increased to an amount of not more than $10,000.

This bill was passed by the Legislature on February 26, 2024, and signed by the Governor on April 9, 2024. It will be effective on July 1, 2024.
Misbranding of Imitation Meat and Egg Products (SF 2391)

This bill provides that a food product is misbranded as a meat product if all of the following apply: (1) The food product is a manufactured-protein food product or the food product contains a manufactured-protein food product (trace amounts of plant proteins are insufficient to trigger the misbranded label); (2) the food product is offered for sale or sold by a food processing plant; and (3) a label for the product includes an “identifying meat term,” without also containing a conspicuous and prominent “qualifying term” in close proximity to the meat term. Identifying meat terms include any phrase or word that suggests or describes a meat product, such as “broiler,” or “drumstick” or “chop” or “cold cut.” Qualifying terms include terms such as “cell-cultivated,” “insect-based,” “plant-based,” or “veggie.”

Manufactured-protein food products are defined by the bill as “cultivated-protein food products, insect-protein food products, or plant-protein food products.”

The bill forbids the sale of misbranded products and authorizes stop orders and embargo orders. Inspections for misbranded food are to be initiated upon “credible complaints.” Food processing plants that violate the law are subject to civil penalties up to $500, up to a maximum of $10,000 for violations arising out of the same transaction or occurrence. Each day that a violation continues constitutes a separate offense. Food processing or food establishment licenses may not be suspended or revoked for violations of the misbranding law.

The bill also requires public universities, community colleges, and schools to establish policies to ensure they are not purchasing misbranded food products or cultivated-protein food products (often called “lab-grown meat”).

A late amendment that became part of the bill also prevents fabricated eggs from being labeled as “eggs.” As with the misbranding requirements for meat, the fabricated egg is not misbranded if the label contains a conspicuous and prominent qualifying term in close proximity to the “identifying egg term,” which would include phrases or words such as “cage free,” “hen,” “yolk,” “eggnog,” or “quiche.” Qualifying terms for eggs include words such as “fake,” “imitation,” or “vegan.”

Food processing plants cannot sell misbranded egg products, and the restrictions are enforceable with stop orders or embargo orders. The civil fine for violating the provisions is $500 per day, not to exceed $10,000 for the same transaction or occurrence. The license of a food processing plant will not be suspended or revoked if the establishment violates the egg misbranding restrictions. As with misbranded meat, public colleges, universities, and schools are prevented from purchasing misbranded egg products.

The most controversial section of the bill requires Iowa to seek a waiver from the USDA to prevent fabricated eggs from being eligible for purchase with SNAP or WIC benefits.

The bill was passed by the Legislature on April 10, 2024, and signed by the Governor on May 15, 2024. It will be effective July 1, 2024.

Trapping by Those under the Age of 16 (HF 2249)

The bill modifies Iowa Code § 483A.24(8) to allow those under the age of 16 to trap fur bearing animals without a license if they are accompanied by an adult with a fur harvester license.

The law was passed by the Legislature on April 10, 2024, and signed by the Governor on April 19, 2024. It will be effective July 1, 2024.

Consolidation of Snowmobile Permits (SF 2423)

Current law requires a person wishing to operate a snowmobile on public land, public ice, or a designated trail, to register the snowmobile with the Iowa Department of Natural Resources and to obtain a user permit from the DNR. Each permit costs $15. The bill removes the user permit requirement for an Iowa resident operating a snowmobile and increases the annual snowmobile registration fee from $15 to $30.

The law was passed by the Legislature on April 19, 2024, and was signed by the Governor on May 1, 2024. The law will be effective on July 1, 2024.
Individual Income Tax Rate Cuts (SF 2442)
The maximum Iowa individual income tax rate is currently scheduled to be 5.70 percent for 2024, 4.82 percent for 2025, and 3.9 percent for 2026 and beyond. In 2026 and beyond the rate is the same for all income.
This bill accelerates the scheduled rate cuts by changing the tax rate for all income in tax years 2025 and beyond to 3.8 percent. The bill also lowers the alternate income tax rate from 4.4% to 4.3% beginning in tax year 2025.
This bill was passed on April 19, 2024, and signed by the Governor on May 1, 2024. It will affect the 2025 and 2026 tax years.

Resolution Proposing Constitutional Amendment to Require a Single Individual Income Tax Rate (SJR 2004)
This resolution proposes a Constitutional amendment that would require all Iowa income to be taxed at the same rate. In other words, the amendment would prevent a future legislature from imposing a graduated tax rate. To become effective, the resolution must be ratified by the next General Assembly (91st) and then by a majority of the voters at a future election designated by the Legislature.
This resolution was passed on April 19, 2024.

Tyson Foods announcing it will close its Perry, Iowa, pork processing plant in June is the most recent casualty in the economic woes of pork packers. Smithfield Foods ceased operations at its Vernon, California, plant in early 2023. HyLife shuttered and sold its Windom, Minnesota, plant midway through 2023. Olymel, Canada’s largest pork and poultry processor, also closed pork processing facilities in 2023. Businesses do not shut down profitable operations. However, in tough times, companies with multi-plant operations will logically idle their least profitable, highest cost plants to limit losses.

Many factors are squeezing pork packer profits

Labor, packaging, transportation, insurance and property taxes are all higher. More capital is needed to replace equipment. Interest rates remain elevated.

New plants and retooling existing plants added about 10% to US hog slaughter capacity from 2016 to 2022. This competition further disadvantages aging, higher-cost plants.

Margins can vary greatly among plants, with differences driven by costs, sources of hogs, plant size, capacity utilization and age of plant. Newer plants may be more automated. Older plants may have more breakdowns and need more downtime for maintenance limiting ability to run at maximum capacity. These factors are unique for each plant. Multi-plant companies consider such factors, and company-wide capacity utilization and profits, in business decisions regarding plant closures.

Single-shift plants face cost disadvantage

The roots of the Tyson Perry hog processing plant date back to the 1960s. The facility was opened as Iowa Pork Co. in 1962. Soon after it was sold to Iowa Beef Processors, Inc. (IBP) and then to Oscar Mayer in 1965. Oscar Mayer then sold it back to IBP in 1988. Tyson Foods acquired IBP in 2001. The facility has a reported capacity of 8,250 head per day.

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¹Assumes 50 slaughter weeks per year and 5.4 slaughter days per week.
That’s about 5.5% of Iowa’s hog slaughter capacity and roughly 1.7% of US hog slaughter capacity. The Livestock Slaughter 2023 Summary, downloads.usda.library.cornell.edu/usda-esmis/files/r207tp32d/wh248d422/p5549g65c/lsan0424.pdf, published by USDA’s National Agricultural Statistics Service, contains estimates of the number of federally inspected hog plants by capacity. The Perry plant is one of 11 plants in the 2,000,000 to 2,999,999 head per year size group (Table 1). In 2023, those 11 plants did 22.5% of the total federally inspected hog slaughter. In comparison, the 14 plants in the largest group size, slaughtering 4,000,000 or more hogs per year, did 60.2% of the federally inspected slaughter. Those plants average roughly 20,000 head per day.

Tyson’s Perry plant is a single-shift plant. Double shifting a plant enables processors to boost capacity, which trim both fixed and variable costs per head. A thumb rule, https://dr.lib.iastate.edu/handle/20.500.12876/22164, says that adding a second shift would typically add 20% to building and equipment costs (for extra cooler capacity, etc.), but volume would rise about 95%. This suggests that double-shift fixed costs are approximately 55-60% of single-shift costs per head processed.

However, ability to double-shift is predicated on factors beyond plant infrastructure to do so. Margins need to be good. Hogs need to be plentiful. Labor needs to be available.

Impacts on pork producers
Tyson has four hog slaughter plants in Iowa and one each in Nebraska, Indiana and Tennessee with the one in the Volunteer State primarily harvesting sows and boars. Tyson’s Iowa plants in Storm Lake, Waterloo and Columbus Junction likely have capacity to absorb many of the hogs that would have been harvested in Perry. Those plants have capacities of 17,250, 19,500, and 10,150 head per day, respectively. Also, Tyson has pork contracts and sales to retail, food service and export channels to continue which it will fulfill with pork from other plants.

Barring any additional unforeseen changes in processing capacity, the industry will have sufficient capacity this spring and summer to process hogs. Though transportation costs may rise for some producers. Cash negotiated hog prices and basis near Perry may also dip. Such weakness will likely be temporary. Impact on national prices will be minimal.

Processing capacity constraints usually don’t come into play until late in the year when slaughter supplies peak seasonally. Tyson closing the Perry plant will tighten the slaughter capacity to hog supply situation this fall.

Understanding how packing plants impact local economies
Pork packers generate three types of economic activity in communities where they locate plants.

- Direct effects are based on the level of output (sales) and include packers paying employees and buying hogs, equipment, supplies, services and other inputs to process pork for sale.
- Indirect effects are suppliers and vendors of pork processing plants buying intermediate inputs for resale to plants.
- Induced effects are business owners and employees who work in pork processing plants and for their suppliers and vendors converting incomes into household spending.

Summing the direct, indirect and induced effects account for the total economic activity pork processing plants generate.

Understanding how economic activity will shift in Iowa
We defined three regions to analyze the economic impacts closing the Perry plant will have in Iowa. One region is Dallas County, home of Tyson’s plant. The second is other Iowa counties where pork is processed. The final region is all remaining Iowa counties.

Our primary goal is evaluating economic losses in Dallas County and possible gains in other pork processing counties. Given Dallas County’s central Iowa location, we presume most of the hogs Dallas County loses will be processed in other Iowa counties. Impacts, both positive and negative, extend beyond these counties because plant workers, hog producers and
other input suppliers live and work throughout Iowa, hence we also examine Iowa’s statewide ability to absorb the economic shock of the closure.

Information from the IMPLAN input-output model is used to make predictions about the economic impacts. We estimate that $890 million in annual direct sales will shift from Dallas County to the other pork-producing counties. This direct output figure is based on the 1,276 workers, workforce.iowa.gov/media/1189/download?inline=, employed by the plant. IMPLAN estimates Dallas County will lose $1.18 billion of total sales revenue, or output, after accounting for indirect and induced effects. A total of 2,765 jobs is estimated to be lost in Dallas County.

Value added losses across all industries in Dallas County will be $274 million, of which $114 million is value added loss from the Perry plant itself. Value added includes all labor income plus payments to investors (dividends, interests and rents) and indirect tax payments to governments. Value added is analogous to gross domestic product and is a preferred measure of economic worth. The other pork producing counties gain sales revenue across all industries of $1.14 billion and $246 million in value added. For the pork industry itself, this is about $118 million in value added and an additional 1,269 pork plant workers. If the pork processing plants can indeed attract these workers and process additional hogs, the other pork producing counties will see an additional 964 jobs created in other industries. The non-pork processing counties see net losses of $74 million in sales revenue, $18 million in value added and 210 jobs.

Perry plant closure is net loss for Iowa

Taken, all together, the statewide economic impact is a net loss of 741 workers, $118 million in sales revenue and about $46 million in value added across all industries. In terms of state and local taxes, Dallas County loses $815,000 in county taxes and about $4.85 million in other local taxes (i.e., cities, schools, and special districts).

Tax revenues will rise in counties that gain hogs to process. However, adding gains elsewhere to losses in Dallas County results in a net loss to the state of Iowa and to counties, cities and other local districts of about $2.19 million in taxes from closing the Perry plant.