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- Cover Crops Yield Benefits For Cotton Growers
- New Technology Shines On Farm Show Stages

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MAY 2025

VOL. 140 / NO. 5

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DES KELLER

ON THE COVER

The smallest cow herd in 84 years has led to challenges.

COVER PHOTO BY JOEL REICHENBERGER

Cotton growers are looking to the future by testing conservation practices to boost margins.

12

IN EVERY ISSUE

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PRINTED IN THE USA

The Progressive Farmer, (ISSN 0033-0760), serving families who have a vital and shared interest in American agriculture and country living, is published monthly in January, February, March, April, May, August, September, October, November, December, and a combined June/July issue, which counts as two issues in an annual subscription. Additional double issues may be published, which count as two issues.

Periodicals postage paid at Birmingham, AL, and at additional mailing offices (USPS 447-300). General Editorial Office, PO BOX 430033, Birmingham, AL 35243-0033. Subscription rates in the U.S.: $58.00 for three years, $44.00 for two years, $26.00 for one year. Outside the U.S.: $33 per year. Single copy $5.95.

Canada Post Publications Mail Agreement #40732015 GST #83187 6255 RT0001

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POSTMASTER: Send all UAA to CFS. (See DMM 707.4.12.5); NON-POSTAL AND MILITARY FACILITIES: *The Progressive Farmer*, PO BOX 5074, Boone, IA 50950-0074.

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WE'D LIKE TO MENTION

Gregg Hillyer
Editor In Chief

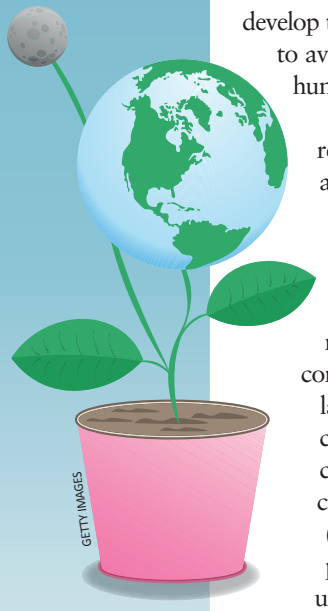
Email Gregg Hillyer, **gregg.hillyer@dtn.com**

A Moon Shot for Agriculture

Mankind has always looked to the stars when aspiring to do something great. Consider when President John F. Kennedy challenged NASA during a speech to Congress in 1961 to land a man on the moon before the end of the decade. Astronaut Neil Armstrong did just that, becoming the first person to walk on the moon on July 20, 1969.

Nearly 60 years later, America again is preparing to return to the moon. The Artemis III program plans to land a crew on the lunar surface sometime in 2027, according to NASA. It's part of a larger effort to establish human-occupied bases on the moon that will serve as a staging point for eventual missions to Mars.

Back on earth, a coalition of Nobel Prize laureates and World Food Prize winners are urging world leaders to once again look to the stars. They are calling for an agricultural research and development moon shot to develop technologies with the greatest chance to avert what they perceive as a potential hunger catastrophe in the next 25 years.



GETTY IMAGES

In an open letter signed by 153 recipients of the distinguished awards and released earlier this year, they warned that the world was not close to meeting future food needs. They predicted an "even more food insecure, unstable world" by mid-century unless the international community ramped up support for the latest research and innovation. Citing challenges including climate change, conflict and market pressures, they called for efforts leading to substantial (not just incremental) leaps in food production. Other factors cited to be undermining crop productivity around the world include soil erosion and land degradation, biodiversity loss, water shortages and policies restricting agricultural innovation.

RENEWED EFFORTS

"All the evidence points to an escalating decline in food productivity if the world continues with business as usual," stresses Cary Fowler, joint 2024 World Food Prize laureate and outgoing U.S. Special Envoy for Global Food Security. "We know that agricultural research and innovation can be a powerful lever, not only for food and nutrition security, but also improved health, livelihoods and economic development. We need to channel our best scientific efforts into reversing our current trajectory, or today's crisis will become tomorrow's catastrophe."

The laureates highlight Africa's vulnerability, in particular, where population is soaring but yields of the staple crop corn are forecast to decline across almost its entire growing area. Africa is not alone. "In low-income countries where productivity needs to almost double by 2050 compared to 1990, the stark reality is that it's likely to rise by less than half. We have just 25 years to change this," stresses Akinwumi Adesina, president of the African Development Bank Group.

PROMISING PRIORITIES

The signatories emphasized agriculture must prioritize the promising scientific breakthroughs and emerging fields of research to boost food production. They cited improving photosynthesis in staple crops such as wheat and rice to optimize growth; developing cereals that can source nitrogen biologically and grow without fertilizer; and boosting research into hardy, nutrition-rich indigenous crops that have been largely overlooked for improvements.

This isn't the first time we've heard similar warnings of food insecurity. Our first reaction is to largely toss it aside as just more exaggerated hype. That's easy to do when you live in a country where most never have to worry about when they will get their next meal. Unfortunately, that's not the case in many parts of the world.

The unprecedented productivity gains that have long defined agriculture over the years have been the result of advances in technology and innovation. Both public and private efforts are needed to finance and fuel continued advances in food production to create another green revolution that mirrors Norman Borlaug's efforts of the 1960s.

As Mashal Husain, president of the World Food Prize Foundation, states: "If we can put a man on the moon, we can surely rally for funding, resources and collaboration needed to put enough food on plates here on Earth." ///

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Don't Fall for These "Dirty Dozen" Tax Scams

Every year, the IRS issues a list of the "dirty dozen" tax scams. It's always interesting to read what the IRS is either warning taxpayers about or focusing its efforts to enforce on. This year, the list has a lot to do with social media.

Taxes are very complex and based on specific fact patterns. Getting tax advice from social media is often misleading or just flat-out wrong. Given agriculture has many one-off tax rules, the odds are that unless the information is from a reputable source, it might not be 100% accurate. Below are a few of the dirty dozen that caught my eye.

- **False fuel tax claims.** One of the dirty dozen that directly affects farmers is the fuel tax credit. The credit is meant for off-highway and farm use. However, increasingly, more people are misusing the tax credit. This is on the IRS' radar, so make sure you are taking the credit properly.
- **Email phishing scams.** The IRS has seen a tremendous number of email scams targeting taxpayers. These messages are posing as the IRS or other legitimate tax professionals (accounting firms or investment companies). In addition to emails, people are getting "smishing"—text or SMS messages on your phone.
- **Social media.** With YouTube, TikTok and other social media all the rage, people will say and do anything to get noticed. There are many "tax professionals" posting content regularly that is misleading or just plain wrong.
- **Fake charities.** With all the natural disasters and crises in America, fake charities are popping up. If you give money to a fake charity, you are not able to deduct your contribution.
- **Misleading Offers in Compromise.** The Offer in Compromise (OIC) program is aimed at helping taxpayers settle federal debt they are unable to pay. However, "mills" are aggressively promoting OIC to people who don't qualify and charge them thousands of dollars. Ultimately, the OIC isn't accepted, and people are out the money they paid.
- **Overstated withholding.** One scam that is floating around social media encourages people to overstate their withholding (W-2 or 1099s). The scammers suggest filing bogus tax returns in order to get large refunds. However, if the IRS can't match a W-2, the tax refund would be suspended.
- **Ghost tax return preparers.** The IRS issued a warning about "shady tax professionals" and those who charge a fee based on the tax refund. IRS encourages taxpayers never to sign a blank or incomplete return.

As always, take things with a grain of salt. If someone tells you something that is too good to be true, it probably is. ///

GETTY IMAGES

Rod Mauszycki

DTN Tax Columnist Rod Mauszycki, J.D., MBT, is a tax principal with CLA (CliftonLarsonAllen) in Minneapolis, Minnesota.

➤ Read Rod's "Ask the Taxman" column at **ABOUT.DTNPF.COM/TAX**

➤ You may email Rod at **taxman@dtn.com**

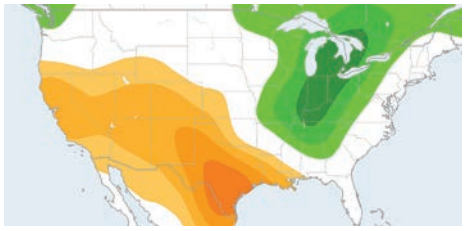
TOOLS FROM THE PAST

Who needs to go to the barber when you have this in your house? ***What is it?***

Answer:
This is a mechanical hair clipper used to cut shaggy manes.

WHAT'S TRENDING @ DTNPF.COM

➤ *DTN Ag Meteorologist John Baranick recently joined host Sarah Mock to provide an overview of the Plant 2025 weather forecast and what trends are in store as weather patterns transition from La Niña to a more neutral position.*



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May 12: WASDE Report: Join DTN Lead Analyst Rhett Montgomery as he breaks down the latest world supply/demand estimates and provides analysis on how commodity markets may react.

BLOGS & COLUMNS

RUSS' VINTAGE IRON

Nostalgic histories of yesteryear's farm equipment

➤ **Russ Quinn**
Fertilizer Editor
@RussQuinnDTN

TECHNICALLY SPEAKING

In-depth commodity market analysis and perspective

➤ **Rhett Montgomery**
Lead Analyst
@R_D_Montgomery

MINDING AG'S BUSINESS

Farm management and farm financial strategies

➤ **Katie Dehlinger**
Senior Farm Business Editor
@KatieD_DTN

FARMERS ON SOCIAL

Who am I to judge, it's been working since 1891. 😅
@TheHomeFarm

Thankful for God's reminder ... His promises are true! **@GaFarmer80**

Got some concerns about tonight's low if the wind lays. Gonna pull covers and sleep better. **@k_shlagel**

Cowtown! 🔥🔥🔥🔥🔥🔥🔥🔥
@BeelFrankbeel

I've officially reached the age, of I need a new truck but don't want to spend the money for a new truck and think prices for a truck are ridiculous. I wasn't prepared to become my father at such an early age I thought I had more time.
@Bkitch1Bodie

Potential Soybean Standoff Looks Different 7 Years Later

In the spring of 2018, world trade was rocked by the onset of the U.S./China trade war. Agricultural products, particularly soybeans, were square in the crosshairs of the dispute. The two sides would spend the next several months exchanging a series of escalations and negotiations, which culminated with the signing of the Phase One Trade Agreement in 2020. Now, seven years later, the two sides again find themselves in the midst of a trade war. U.S. soybeans are in the crossfire and, at the time of this writing, subject to a 44% tariff from China. This time around, however, officials have the gift of lessons learned, which could aid in bringing a quicker resolution to the dispute.

The world's soybean landscape is certainly different in 2025 versus 2018. For one, China imports roughly 500 million bushels more soybeans annually than in 2017–18 and holds roughly double the amount of carryover soybean stocks than it did seven years ago. Meanwhile, Brazil now produces north of 1.5 billion bushels more soybeans and exports over a billion more annually, as well. At first glance, these statistics are worrisome, as it appears Brazil stands able to deepen its dominance of world soybean trade. However, it must be noted that Brazil's own crush industry is developing at a steady clip, growing at a 3.6% compounded rate annually from 2018 to 2024. This begs the question of how much further expansion Brazil is capable of to stretch production and satisfy all angles of demand for its soybeans, but that is a discussion for another day.

GETTY IMAGES

When the trade war hit in 2018, the timing could not have been worse for U.S. producers, who in April 2018, had committed to planting 89.2 million acres of soybeans, the second largest on record to this day and just below the previous year's record. All totaled, the U.S. produced a record soybean crop for three years in a row from 2016–2018, answering the call for more supply following tight stocks years from 2013–2015. Then came the trade war, and Chinese soybean imports from the U.S. dropped 52% in 2018–19. However, total U.S. exports of soybeans only dropped 18% year over year. In fact, outstanding soybean sales in September 2018 were 2% higher than the previous September, despite a 79% decrease in sales to China, as other countries rushed in to take advantage of low U.S. prices. China's importance to the U.S. soybean trade is undeniable, accounting most years for around 50% of total business done. However, the supply increase of U.S. soybeans leading up to this demand shock is often overlooked for its role in the painful price experience from 2018–2020.

Fast-forward now to 2025, and the U.S. has topped 2018 soybean production only once in the six harvests since. Export demand has shrunk on average by 2% annually since 2017, while total demand for U.S. soybeans has grown by 2% annually thanks to ongoing growth in domestic crush because of the biofuel boom. This demand shift toward domestic usage leaves the U.S. in a much better position in 2025, I believe, to withstand a short-term trade dispute with China. The key term here is "short-term," because if 2018–2019 is any indication, consequences of a trade war worsen the longer it is prolonged. My hope remains that by the time you read this in May, a trade agreement has already been reached and there is no need for an exercise in "what-ifs." If so, treat this as a brief history lesson. Otherwise, I hope it helps to reintroduce the playing field in preparation for what could be coming in 2025. ///

Rhett Montgomery
Lead Analyst
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➤ You may email Rhett at **rhett.montgomery@dtn.com**

Look Past the Present To Address Long-Term Problems

The usual suspects are all here, and the pressure's building.

Mother Nature's at the bar ordering up a round of something, leaving us all wondering if this is going to be a two-drink happy hour or three-day bender.

Geopolitics recently added steroids to its workout regime. It's all jacked up and picking fights, collateral damage and consequences be damned.

The market is thriving on the drama, working the room, taking bets and counting the dollars that slip into his pocket.

If this were a movie, I'd say settle in and get some popcorn. This is going to be good.

But it's not. Farming is your livelihood, and if I were to ask, you'd probably say it's an important part of your legacy, too. It's a lot harder to revel in the drama when you're entangled in it, when your success or failure is on the line.

"You have to give it your best effort and hope that things shake out better down the road," says South Dakota farmer Tregg Cronin. He thinks most farmers believe trade policies need to be reformed even if it comes with some hardship. "I think the universal thing is: Guys do not want a repeat of 2018–2019."

Soybeans bore the brunt of President Trump's first trade war with China, which resulted in $27 billion of lost agricultural exports and left farms reliant on ad hoc Market Facilitation Program payments to pay the bills.

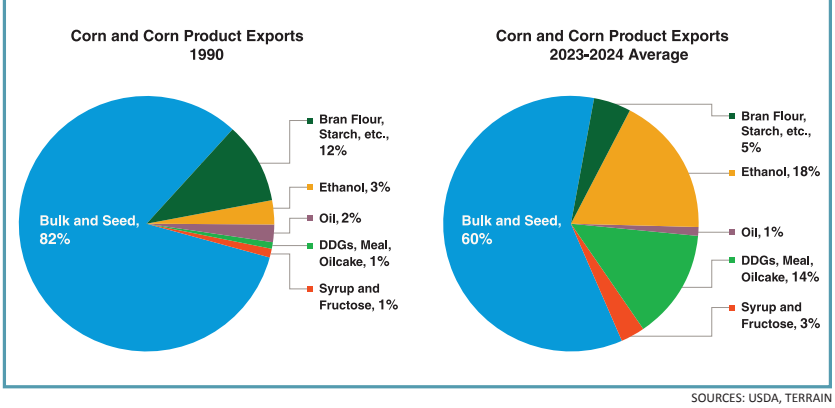
A study by the American Soybean Association and National Corn Growers Association says a new trade war could cost corn and soybean farmers $5 to $8 billion in lost production value each year. Higher corn and soybean prices in Brazil and Argentina will fuel further acreage expansion, and their trade ties with China strengthen.

The study can't "account for the permanent implications from the loss of the United States' reputation with trading partners, as evident in the fact that U.S. agriculture today is still rebuilding from the 2018 trade war. ... The impact on U.S. soybean and corn farmers isn't limited to a short-term price shock: This is a long-lasting ramification that changes the global supply structure."

This is happening alongside another long-term change with implications for U.S. ag: declining global population, especially in our most established markets, Terrain senior rural economy analyst Matt Clark argues.

"The idea of producing as much as possible and exporting the excess will likely not be a financially sound business plan in 20-plus years," he says, pointing to the corn market's success as a blueprint for other commodities. The development of ethanol not only created new value-added industry but also reshaped the export market. Bulk corn accounted for 80% of exports in 1990 but only 60% in 2024, as value-added products exports grew.

King Corn Exports More Value-Add Products



SOURCES: USDA, TERRAIN

Clark says the U.S. "should continue to strategically develop new export markets to enable some long-term viability while recognizing the strong need to develop value-added products for both domestic and export markets."

A worthwhile goal, present challenges notwithstanding. The Trump tariffs could accelerate this process if it helps establish new trading relationships rather than hinder them. Policy support for the development and adoption of sustainable aviation fuel and renewable diesel would move the needle. But, as with everything the administration does, we'll have to wait and see what actually happens, not just which way the wind is blowing. ///

Katie Dehlinger
Senior Farm Business Editor
➤ Read Katie's business blog at
ABOUT.DTNPF.COM/BUSINESS

The Gift of May

BY *Meredith Bernard*

We made it, y'all. Through winter's tight grip and the tumultuous wind and wreckage that accompanies spring, we've made it to May. Right up there with my other favorite month of October, this month feels like a breath of fresh air. Summer's heat hasn't moved in yet, yard-mowing therapy is upon us (that's what it is for me, anyway), grills are ready to be fired up for weekend cookouts, ball fields and farm fields are abuzz with excited kids (both young and old), and the world feels happy.

MEREDITH BERNARD

Some seasons require deep thought and intention to find joy, both in nature and life. This prerequisite month to the entrance of summer is easier on the heart and mind, though. With the longer days and warmer temps this time of year, I enjoy taking our dogs for a walk after supper. We're up to seven, which is probably considered a pack, but no matter what you call it (even if you call it crazy), these pup-powered trips up our farm lane have become a soul-filling nightcap to my days.

Somehow, overnight, toddlers became teenagers, and "Mom" isn't needed as much as she once was. Enter our "dog pack"—that actually does feel more needy than toddlers on any given day, but I digress. These nightly walks ground me and often help me see what I've been missing all along.

The moral of this short story is this: Take your joy where it can be found (hint: It might be disguised as a sunset stroll, a porch swing siesta or a phone call with a friend). Our circumstances may not always be wrapped up with contentment, but I promise you that life itself is a gift, and I challenge you to take time this month to find the natural rewards of living it. ///

Meredith Bernard documents rural life, walks dogs and tends to farm and family from North Carolina. Follow her on social media **@thisfarmwife** and visit her website at **thisfarmwife.com**

Mom Days To Remember

BY *Jennifer Campbell*

Farming and kids have a funny way of making time feel both unchanging and fleeting all at once.

I remember Mother's Day 1999 like it was yesterday. I was working ground ahead of my husband as he planted corn. Our daughter was riding shotgun, and I was pregnant with our second child. It wasn't exactly a day of rest, but I was happy to be out there, all of us working together.

The only thing I asked for that day was for my husband, Chris, to take some pictures of us in the field.

This was pre-cellphone days—no snapping a quick picture and tucking your phone back in your pocket. If you wanted photos, you had to plan for it—carry a camera, take the pictures then get the film developed. It was a whole process. You had to make a deliberate effort, and somehow, that makes those pictures even more special.

CHRIS CAMPBELL

Farming has changed a lot over the years—bigger equipment, variable rates, auto steer. Technology had made things more efficient, more precise and, sometimes, a little easier. But, these days when I'm in a tractor and glance over at my granddaughter in the cab with me, I realize that for all the ways things have progressed, the heart of it all has stayed the same.

Mother's Day has never been about fancy brunches or spa days. It has always been about family for me. Working together or experiencing a chaotic lunch with everyone in my kitchen is how I want to celebrate.

Time marches on, whether we like it or not. Kids grow up, tractors get traded, and years go by. But, every now and then, life gives us these full-circle moments. The trick is to stop long enough to appreciate them and record the memory.

However you spend this Mother's Day, I hope it's exactly the way you picture it. ///

Jennifer (Jent) Campbell captures life by word and camera from a seven-generation Indiana family farm. She also writes a blog called Farm Wife Feeds (**farmwifefeeds.com**). Follow her on X **@plowwife** and on the **@girlstalkag** podcast.

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Story and Photos By **Des Keller**

Uncover The Value Of Cover Crops

Cotton growers study the benefits of conservation practices to reduce nitrogen rates and boost lint per acre.

Robbie Faust considers his southwest Georgia farm's use of conservation practices not only good for the land but also the bottom line. An added benefit: It's also good for securing future business.

"I have very happy landlords because we use cover crops," says Faust, the third generation of his family to farm near Dawson. "The cover crops don't generate new leases in and of themselves, but if you do certain practices, people notice that.

"The first irrigated farm I took on in 2006, minimum tillage was in the contract by the owner," he continues. In 2021, Faust was named Conservationist of the Year by the Georgia Association of Conservation Districts as well as Friend of Conservation by the National Association of Conservation Districts that same year.

The awards noted Bellflower Farms' use of strip-till, no-till cover crops, terraces, grassed waterways and low-pressure drip nozzles for irrigation. The farm grows corn, cotton, soybeans, wheat and peanuts.

RESEARCH PLOTS

In 2020, the Fausts (Robbie's father, Mike, also still farms) began participating in a research project with several entities that included the University of Georgia (UGA) Extension. The idea was to promote cover crop outreach and education using demonstration plots. Primarily, the Fausts created a 65-acre test plot using various cover and cash crops over a two-year period.

The 65-acre pivot-irrigated field was broken into four sections. Each was planted the first week of November with a different cover crop or a combination of cover

Robbie Faust is testing various cover crops to determine their return on investment and other benefits.

crops in the fall and then burned down the last week of March prior to planting cotton in the spring.

Cover crops in the four sections were:

- rye only
- crimson clover only
- hairy vetch and rye
- hairy vetch, rye, oats and clover.

Further, the four sections were halved, with one half receiving the usual prescribed amount of nitrogen fertilizer, while the other half received reduced amounts of applied nitrogen based on calculations showing how much nitrogen the soil should have because of the biomass from cover crops.

RESEARCH RESULTS

In the test field where the cover crop was a mix of rye and hairy vetch, the half that received considerably less applied synthetic nitrogen (reduced by 50%) had a better yield than the half that received a full rate of nitrogen—1,320 pounds per acre cotton lint compared to 1,255 pounds.

A second plot with a full rate of applied nitrogen and a cover crop of rye alone yielded 1,395 pounds per acre. This plot, a kind of control, didn't reduce the nitrogen application.

A third plot that used crimson clover alone yielded 1,255 pounds when applied nitrogen was reduced by 50%. The other half of this plot with a full rate of nitrogen applied yielded 1,325 pounds.

On the fourth plot, which used a cover crop combination of rye, hairy vetch, oats and clover, the yield was 1,407 pounds per acre with a full rate of applied nitrogen. The other half of the plot using 50% less applied nitrogen yielded 1,395 pounds.

An economic analysis by UGA Extension found that the average adjusted revenue per acre for the rye-vetch cover combination and full rates of applied nitrogen varied from $1,077 per acre when nitrogen was less expensive to $1,000 per acre, depending on the cost of nitrogen.

As for the other half of that plot using reduced amounts of applied nitrogen, the average adjusted revenue varied from $1,146 to $1,170 per acre.

Even when cotton yields were less with halved rates of applied nitrogen, there was still a financial benefit, explains Seth McAllister, UGA Cooperative Extension Agent, Terrell County, who worked with Faust on the test plot. In the plot that used the combination of four cover crops, Faust spent $28.75 per acre to establish the blend but saved $59 per acre in reduced nitrogen costs.

"So, it paid [Faust] $30.25 per acre to plant the four-way and cut nitrogen if you look at it like that," McAllister says. Overall, he says the cost per acre demonstrates "you would basically break even planting the cover crop or putting out the standard rate of nitrogen." Considering the additional benefits, such as reduced erosion, increased organic matter and higher water-holding capacity, "cover crops are gravy on top of the fertility."

A soybean crop grows amid residue from rye cover crops.

NITROGEN AVAILABILITY CHALLENGES

On a head-to-head basis, "It was amazing to me that the rye and vetch blend outyielded the half with full synthetic nitrogen," McAllister says. "The most frustrating part is that the nitrogen from the cover crops was more readily available to the cotton than to corn and other grains."

In real practice, that's one of the biggest challenges Faust has had with this research project, the inability of some crops to fully utilize nitrogen in the soil as a result of cover crops.

"The nitrogen is there, but the crop can't get it," Faust explains. "We do seem to get the nitrogen boost in the fall when we plant the next cover crop. But, the cash crop doesn't want to pick it up." ➤

Robbie Faust (left) talks with his son, J.W., about work that needs to be finished for the day.

"Ironically, the lignin in a grass cover crop can tie up the nitrogen," McAllister adds. And, their research didn't account for changing soil types within a field, and stands of cover crops may not be uniform across a field.

Most definitely, the cover crops ahead of cotton planting appear to be a better option given this research, he believes. "Corn planting is too early in the spring to get the full biomass needed out of a cover crop to generate that extra fertility."

Interestingly, in 2024, two years after the experiment was ended, Faust noticed pretty good yields from his corn in fields that had cotton after cover crops. "Maybe it takes a couple of years for most of the nitrogen to be available," he says. "It's a bit of a mystery."

A key difficulty doing cover crops, McAllister says, is that farmers are already finishing the hardest part of their year as harvest of corn, soybeans, peanuts and cotton winds down. "They are ready to be done, and the daylight is getting shorter," he adds.

But, cover crops need to be planted as soon as possible in November in South Georgia, not December and January. "A lot of cover crop species are very cold tolerant but are subject to freezing during germination," McAllister explains.

Separate from the test plot, Faust has also used the blue lupine legume as a cover crop. "It looks like a soybean but produces a bunch of nitrogen," he says. They planted some in 2023. "We found the deer love it, and they grazed a field of blue lupine down to nothing." The blue lupine use ended as a result.

WATER MANAGEMENT

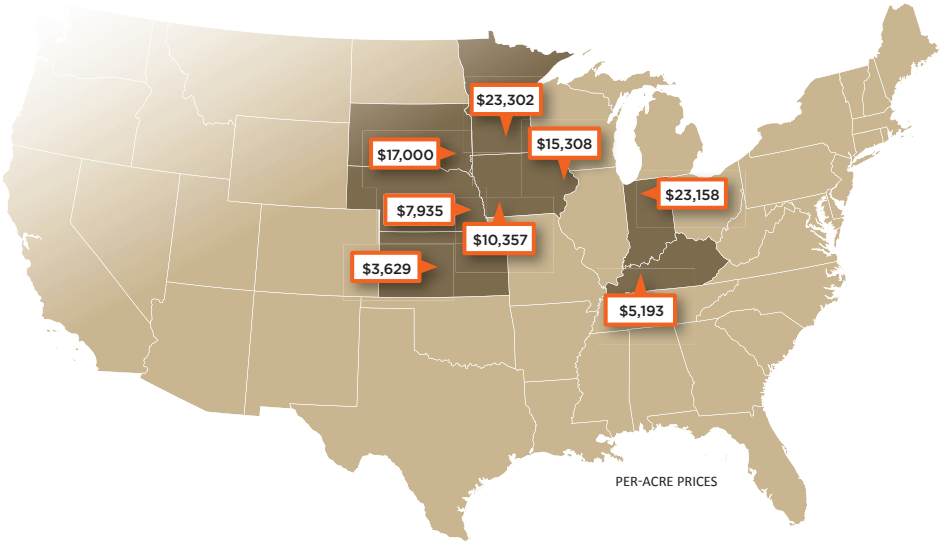
Faust points out one of his main jobs on the farm is managing water—the irrigation—especially when you can get a 3-inch rain in an hour. "That's when you have problems trying to deal with water—where it goes and where it needs to go. That's where your grass waterways come into play. The strip-till and cover crops help, but that's still not 100%," he says.

The Fausts put some of their first low-pressure drop nozzles—a system that is better at metering out water at a rate that fits the plants without applying what can't be used—in around 2008. They've been able to use some local and federal cost-sharing for this work.

"If I was giving advice to someone starting off like I did, I'd say don't necessarily fall in a rut of doing what your family's been doing for ages and ages," Faust says. "Look at other options and the time involved, and the savings you can get."

Certainly, the move to more cover crops has been beneficial in conjunction with irrigation. "We have seen, especially with cotton planted after heavier cover crops, that we are not having to irrigate as much," he continues. The covers help with erosion, moisture control and a reduction in irrigation needed. "You put all that stuff together, and it has some value." ///

Recent Farmland Sales



INDIANA, Elkhart County. A 76-acre farm was offered in four tracts and bought by one buyer for $1.76 million, or an average of $23,158 per acre. The farm includes 5 wood acres but is otherwise highly tillable and gently rolling. **Contact:** Jon Rosen, Halderman Real Estate and Farm Management; jonr@halderman.com, 260-740-1846
www.halderman.com

IOWA, Jones County. A 211-acre farm with 208 tillable acres sold for $3.23 million, or $15,308 per acre. The farm, north of Mechanicsville, has a CSR2 score of 85.3. **Contact:** Mark Mommsen, Martin, Goodrich and Waddell; mark.mommsen@mgw.us.com, 815-756-3606
mgw.us.com

Pottawattamie County. A 140-acre farm sold at auction for $1.45 million, or $10,357 per acre. The land has been improved with well-maintained terraces and carries a CSR2 score of 68.1. **Contact:** Andrew Zellmer, People's Co.; andrewz@peoplescompany.com, 712-898-5913
peoplescompany.com

KANSAS, Rice County. A 10-tract hybrid auction brought in $4.26 million, or $3,629 per acre. Of the farm's 1,174 acres, 1,112 were tillable with primarily Class 2 soils and an NCCPI average of 64.7. Several of the farms are 100% tillable, while the parcel commanding the highest price ($4,700 per acre) was advertised as primarily in pasture but could be broken out for cropland. One tract offered excellent hunting potential with 12 acres of timber-lined creek. **Contact:** Chris Ostmeyer, Farmer's National Co.; COstmeyer@farmersnational.com, 316-788-4240
www.farmersnational.com

KENTUCKY, Ohio County. A single tract containing 101 acres sold at auction for $524,535, or $5,193 per acre. Improvements included machinery and storage sheds, a tobacco barn, a 3½-acre lake and fencing and crossfencing. **Contact:** Clay Taylor, Kurtz Auction and Realty Co.; Clay@kurtzauction.com; 800-264-1204
www.kurtzauction.com

MINNESOTA, Sibley County. Two dairy farms encompassing 106 acres sold in an online auction for $2.47 million, or $23,302 per acre. The first property, the larger of the two, had 66 total acres, including 19 acres of cropland. The remainder of the property was a 1,300-cow dairy featuring a double 24 rapid exit parlor, solid separator manure system, lagoons, feed pad, shop and commodity building. It sold for $1.696 million. The second, 40-acre tract included 15 acres of cropland and a 500-cow dairy that could serve as a transition farm or a fully operational milking facility. It sold for $777,000. **Contact:** Randy Kath, Steffes Group Inc.; randy.kath@steffesgroup.com, 701-429-8894
www.steffesgroup.com

NEBRASKA, Lancaster County. In an online auction, five tracts of farmland totaling 581 acres sold for $4.61 million, or $7,935 per acre. Four of the tracts were primarily pasture with some timber and ranged in price from $7,600 to $7,800. The last parcel, 84 acres of mostly tillable cropland, sold for $9,350 per acre. **Contact:** Chris Scow, UFARM; chris.scow@ufarm.com, 402-434-4495
www.ufarm.com

SOUTH DAKOTA, Minnehaha County. A 40-acre farm sold at auction for $680,000, or an average of $17,000 per acre. The property is gently rolling, was improved with drainage tile last year and carries a PLC corn yield of 174 bushels per acre. The buyer will need to reimburse the tenant for fall-applied phosphorus and potassium fertilizer application. **Contact:** Chuck Sutton, Sutton Auctioneers and Land Brokers; office@suttonauction.com, 605-336-6315
www.suttonauction.com

These sales figures are provided by the sources and may not be exact because of rounding.

Submit recent land sales to
landwatch@dtn.com

Find previous Landwatch listings at
www.dtnpf.com/agriculture/web/ag/magazine/your-land

By Jennifer Carrico, @JennCattleGal

The State of the Cattle Industry

"It's hard to not enjoy these prices," Kansas rancher Matt Perrier says. "But, based on past experiences, I think we are all cautiously optimistic as to where we are headed."

Many in the beef industry expected the cow herd to build back after seeing numbers shrink, the result of producers cutting numbers because of the shortage of forage from drought. However, that hasn't happened.

The U.S. cow herd continues to shrink and is at the lowest level in 84 years, according to the USDA National Agricultural Statistics Service's Jan. 1, 2025 numbers, with 37.2 million head. The 1941 inventory was 36.8 million head. The decline, which started due to widespread drought in 2021, has continued thanks to continual dry weather, wildfires and record fed cattle prices averaging $65 more per cwt, at $187 at the end of 2024, than in 2021.

LESSONS LEARNED

"The drought standpoint won't ever go away. There will always be dry conditions somewhere, but when it's widespread in cow country, that's when we see an impact," explains Oklahoma State University (OSU) agricultural economist Derrell Peel. "Producers are being very cautious with these record-high prices after going through 2014 and 2015."

Peel refers to the decline in 2014 cattle inventory numbers that led to higher prices. However, that price

Kansas rancher Matt Perrier keeps good records on his herd to have the information needed when it is time to sell calves.
JOEL REICHENBERGER

Cow herd expansion is on hold while producers and the industry enjoy prosperity.

hike started to turn around in 2015, and by 2016, prices were considerably lower. The weekly weighted average steer price per cwt in 2013 was $125.87. In 2014 and 2015, it had increased to $154.26 and $147.92, respectively. But, by 2016, the price had declined to $120.77 per cwt.

"Most all of us remember 2014 and 2015, when we were doing well and then prices fell more than expected," Perrier points out. "It really makes us be cautious now."

Since then, cattle producers like Perrier and Iowa cattleman Dan Hanrahan have taken steps to manage risk to protect their calf prices. One tool they use is Livestock Risk Protection, a federal livestock insurance product similar to federal crop insurance. It has been available since 2001 to insure producers against market prices falling below a predetermined price. OSU's Peel recommends it for any producer selling cattle.

For Hanrahan, 2025 will be the first time he has used the plan. "I think during these high prices, all cattle producers are looking at ways to get the most out of their calves. We've seen plenty of times when we have sold calves considerably lower. We want to be able to cash in on this while it's here," he says. Hanrahan is still gathering information before determining what level of coverage to use for his calves this fall.

STRONG PRICES HAVE STAYING POWER

Peel doesn't expect these record cattle prices to be gone in the next couple of years and contends they could last longer depending on when producers start to keep heifers and build numbers back up. "As long as the demand hangs in there, we will have good prices, because the supply is keeping us in that space," he explains. Consumer ➤

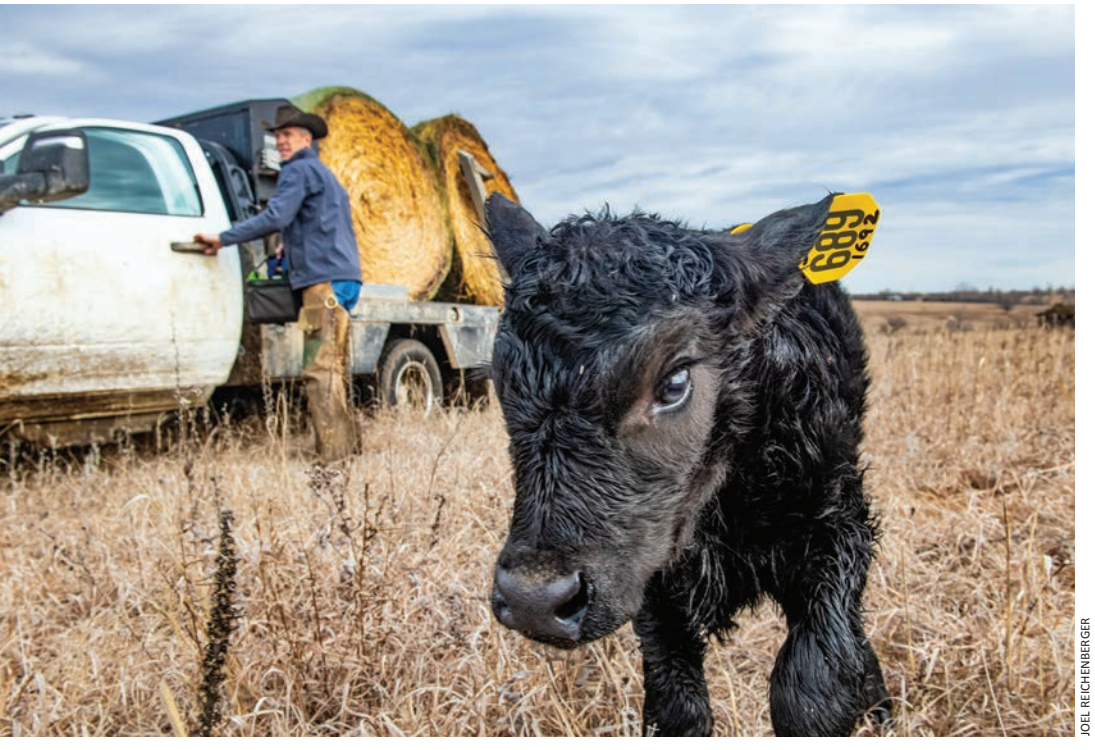
demand for beef has continued to drive producers to be more stringent on the cattle they keep versus what is sold to take advantage of the income.

"We have to look at the pipeline, too," he continues. "Even if producers would start keeping heifers back, it would take two years before they are producing calves. If those heifers don't calve until 2027, the beef supply doesn't change until 2028 at the earliest."

Peel points out in years of lower prices, some producers may give open heifers another chance to breed. But, when they are worth more, they get sent to the feedlot. Heifers that are implanted and sent straight to the feedlot won't come back to the herd for impulse breeding to be made into replacements. They are already being sent on to the beef market.

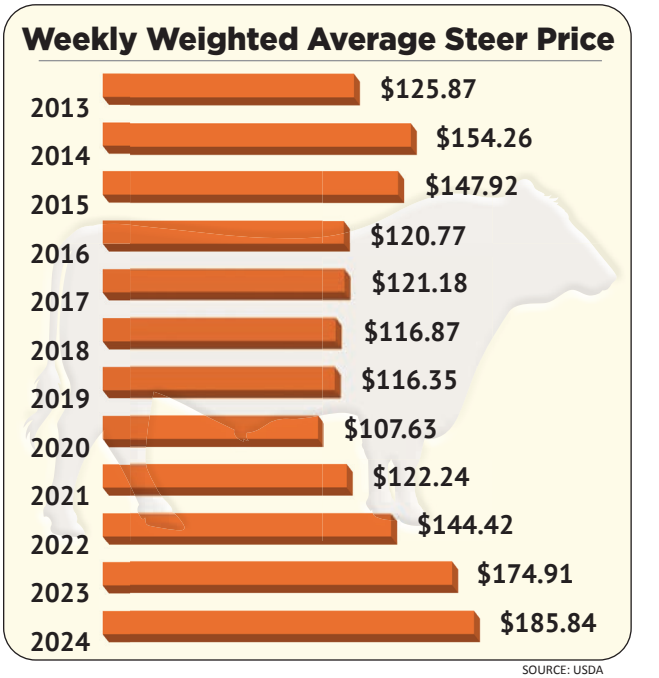
Instead of keeping heifers for replacements, Hanrahan sold more of them out of his 2024 calves than he normally would to help pay for the farm's operating costs. This is common among cattlemen when prices are high. Peel recommends producers take advantage of financial recovery and pay off what debt they can while they have the extra revenue. In turn, that makes it easier to look long term to retaining heifers.

Most cows are held to higher expectations when cull prices are inflated. After calves are weaned in the fall, if a cow is older and not keeping up with her younger counterparts, or if she comes back open or has physical problems with soundness, producers are more likely to send her to town.



JOEL REICHENBERGER

A new calf has been weighed and tagged, and rancher Matt Perrier moves on to look over the rest of the herd.



SOURCE: USDA

When selecting bulls and heifers Perrier, says he tries to be equally hard on quality from year to year, but some years they are more stringent. "If they aren't good enough to be seedstock during a good market year, then they may not work when the market is poor either," he says. Besides their registered herd, they also have a commercial Angus cow herd. Regardless of which herd his family is managing, they want to have practical, profitable cattle and not follow trends.

Perrier's ranch dates to 1867. The cow herd has remained because they strive to produce cattle that excel in reproductive efficiency, performance and end product merit. For Hanrahan, most of his cows are not registered, but he selects them the same as he does his registered herd. He also sells a small number of registered Angus bulls to other breeders in the area.

Perrier's bull market is larger with the bulk of

his bulls sold at an annual fall auction. Private treaty bulls are priced and sold in the spring. "We price bulls based on what four to five feeder cattle are worth. That's higher now than it has been in the past," he says.

Iowa cattleman Dan Hanrahan says it's important to keep productive cows in his herd, especially when prices are high.
PHOTOS: JENNIFER CARRICO

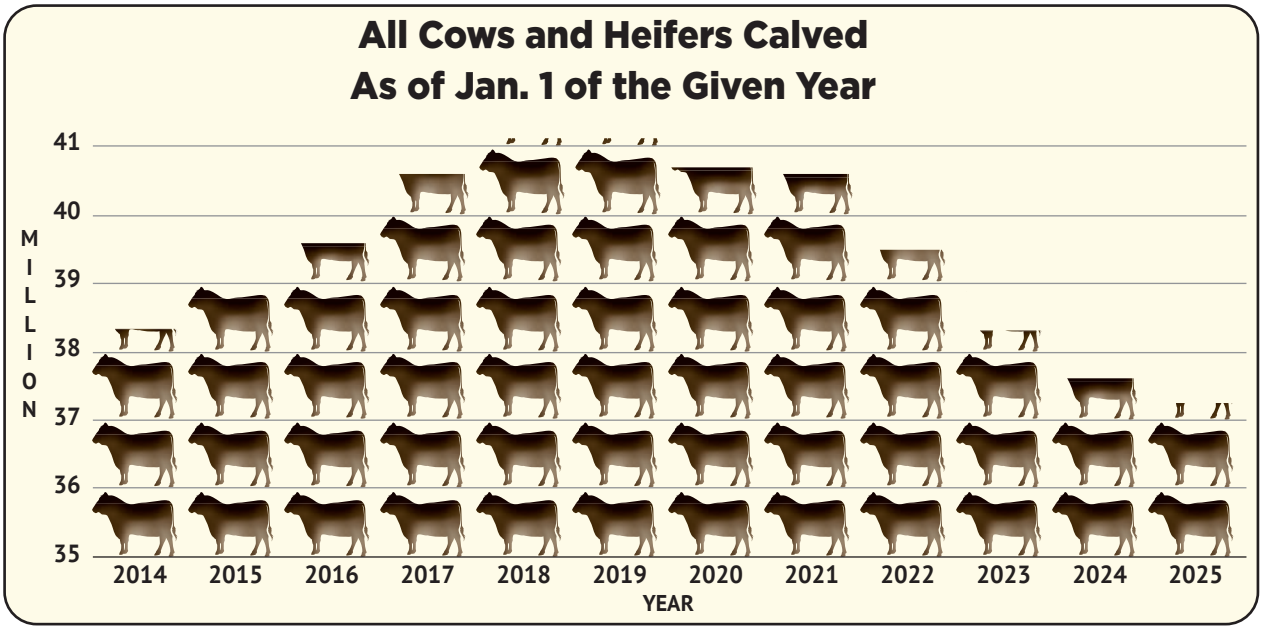
Their bull customers are more likely to sell calves earlier to take advantage of higher prices. Seedstock producer Perrier will generally wait longer. "I'm less aggressive in selling cattle early because I don't have added incentive to do so," he says. "I can take the time to determine what needs to be a replacement in our cow herd or a bull for our sale."

A LOOK TO THE FUTURE

OSU's Peel says while strong prices will likely continue into the next few years, so many factors affect today's market that didn't register even a couple years ago. "We don't know many details on how trade could be affected by tariffs yet. We continually import and export beef, and the net impact may not be affected at all," he explains. "The threat of recession has gone up, and that could affect demand and, therefore, affect beef prices, too. Markets don't like uncertainty."

Hanrahan and Perrier both have been involved with industry organizations through the years, which has strengthened their knowledge of how beef is marketed beyond the feedlot. As chairman of the Iowa Beef Industry Council, Hanrahan says he saw the importance of how Beef Checkoff Program dollars have worked to increase beef demand and increase profitable returns to producers. "Through the activities funded by the Checkoff, our producers have seen a steady increase in the value of a fed steer," he explains. "The U.S. has a product that is accepted by the consumer both domestically and internationally. We know the quality of beef we raise and have pride in raising this product for consumers."

As of late, supply has had a hard time keeping up with demand, leading to higher market prices. To help meet the growing demand, Hanrahan would like to grow his cow numbers but knows the challenges that ➤



SOURCE: USDA NASS

come along with expansion. "I'd like to grow my herd, but I have to be able to make the most of the land I have available here since I'm in such close proximity to Des Moines," he points out. "It's important to look at all practices and how they can help us grow while staying sustainable. I am looking at how cover crops or a secondary crop can extend my grazing period, which might allow me to add more cows since there isn't a lot of land available right here."

Perrier has tried to take advantage of expanding his Kansas ranch when the opportunity presents itself by adding both acres and cows. This is especially important if any of his five children—ranging in age from 6 to 21—would like to return to the operation. "After graduating from college, I didn't come back to the ranch right away. My family went through the farm crisis, and I looked at other opportunities but eventually saw a time to return," he explains. During the past 20 years since, he and his father, Tom, have worked to build up the organic matter in the soil and continually improve the land, making it sustainable for future generations.

With the cow herd the smallest it has been in 84 years, many wonder when to rebuild.

JOEL REICHENBERGER

Perrier's children are the sixth generation on the ranch, and he says of the prior five generations, one child returned to continue ranching. "Hope (6) is at the age she wants to be a paleontologist right now, but the rest of them have all indicated some level of interest of returning to the ranch," he says. "That is both exciting, but it's also fairly scary to me. There have never been multiple siblings return to our ranch, but we're trying to make sure we can figure it out if they're interested."

The additional profits currently seen in the cattle sector certainly make the thought of expansion a possibility. Peel does expect prices to stay on pace this year and says there is a chance of even stronger prices, even though records have already been hit. "It really comes down to how do we do this if drought isn't a factor and heifers are kept for replacements that would normally show up in feedlot inventories? This would cause a tighter beef supply and push prices even higher," he concludes. ///

Guarded Optimism Across Cattle Country

Historically, cattle producers are not used to prosperity and experiencing long-term prices at an all-time high. As a result, many today have guarded optimism about just how high prices will go. At Dunlap Livestock Auction, in Dunlap, Iowa, where cattlemen get true price discovery, prices continue to climb, owner Jon Schaben explains.

Schaben has been in the auction business his entire 60 years. He grew up in the barn his parents once owned and now owns it with his brothers. Additionally, he is now an owner in the West Point Livestock Auction, in West Point, Nebraska.

Unprecedented Times

Schaben's involvement in more than 250 auctions each year leads to interaction with over 100 people at each sale. This, along with an additional 35 phone calls with cattle producers each day and several farm and ranch visits annually, means Schaben is closely connected to the beef industry. "These producers don't know how to act when the prices get this high. History tells us markets will go up and down, but we certainly haven't ever seen them continue at a level like this," he says.

Through the years, Schaben has watched producers make changes to the genetics in their herds to raise more high-quality beef, and he is glad to see they now are being rewarded for their hard work. However, he is concerned the price of beef in the grocery store could get some consumer pushback. "I don't think $4.50 per pound is too high for hamburger, but at some point, the consumer may think it is," he continues. "During COVID, our industry was seeing deflationary prices, and we didn't worry about prices then; so we shouldn't have to worry about if prices are inflationary now."

Schaben explains the supply and demand model shows prices could still go higher, and continual acceptance at the consumer level will be needed to support higher prices. "We may have changed the landscape enough in the beef industry that we won't see cycles in the market anymore," he adds. "The size of the cow herd is not increasing, so we are driven even more by demand."

The COVID pandemic, he speculates, may have been when this break in the cattle cycle began. "It was such a wild card," Schaben says. "People sold heifers then to pay off debt. We were backlogged in the processing sector, and it really caused problems all the way back to the cow/calf producer."

Demand Outstrips Supply

Strong demand for feeder steer and heifers continues to be seen in both of his barns. Schaben says a lot of good replacement quality heifers have been sent to the feedyard and are not making their way back to the cow herds.

And, now, high prices continue to affect cow numbers, with the cull-cow market staying steady, making the inventory pot even smaller. Producers sold cows that needed to be culled last year. Market bull prices got to the point where a lot of bulls were bringing more in the cull market than when the producer purchased them as a herd bull. Schaben is uncertain when or if the cow herd will see a rebuild or will continue to be at the lowest levels seen in more than 60 years.

The feeder cattle market is proportional to the fed cattle market, Schaben explains. Demand keeps prices high on the feeders and breaks even at a good level for fed cattle. For now, the uncertainty in how high the prices will go continues, but he remains optimistic for producers. "Our product is in a good position right now at the consumer level. If we can find the needed labor to keep the product in front of consumers and get enough younger producers to raise the cattle, then we could be sitting well in the cattle industry for some time to come," he says.

JENNIFER CARRICO

Nurture
A Healthy and Growing Family Business

Things in nature are beginning to grow again. Warmer weather and longer days mean more time outside. You see budding trees, blooming flowers and emerging crops across the countryside. And, along with this new growth comes the need to prune: selectively cutting, thinning and cleaning to support healthier and more productive development in that which is growing.

Family businesses, ever-growing with new purchases, more activities and increasing relationships, need a similar type of pruning. As family farms and ranches transition from one generation to another, naturally growing and taking on more land or business arrangements, they must consider what needs to be cut back to focus time and energy on the most productive opportunities.

Before we delve into the pruning opportunities, however, consider what "good growth" looks like in your family business. Growth may not be adding more to your plate. The focus might be on improved profitability instead of being larger in size or on better family relationships rather than adding more staff. Good growth may include getting out of a business or even selling some land to strengthen parts of your balance sheet. In other words, consider pruning in terms of what success means to your family and business today and tomorrow, especially in a future where tighter margins may be a reality.

Here are a few categories to consider as you contemplate the act of pruning in your family company.

Business structure and processes. As you grow over the years, the way you track, store and process information has evolved. Perhaps your bookkeeping system has become cumbersome or your filing processes too scattered. Maybe you've added entities for liability, estate planning or Farm Service Agency purposes. As we accumulate more data, how we organize, store and utilize that data has become a concern. As you look around your office, what information needs better organization? What structure needs simplified? In what ways can you streamline your decision-making and data reporting?

Communication. In part because of the informal relationships of family members and in part because of being a small business, much of the communication process is impromptu on family farms and ranches. You talk when you need to, and you often make decisions on the fly. In fact, being nimble in communication helps with the sudden changes in daily plans. However, not having more formal communication can also impede progress as you grow.

Like propping up a branch or bracing a tree, this aspect of pruning involves reinforcing some of your communication processes. For example, holding a short staff meeting every day or a management team meeting every week, or using a group text or a mobile application for task management helps reinforce teamwork and organization. What new methods of communication could help support your family business?

Relationships. Reaching the next level of professionalism in your business may mean that you outgrow some of the people who got you where you are today. Your need for different skills or more management capabilities may require others to step aside. In some cases, people can move to other roles. At other times, they may need to leave to go places where they can be of more value. This concept also applies to your professional advisers, and most of them understand when you are ready for the next level of specialization, expertise or service.

As your family business continues through generations, you accumulate practices, people, processes and structures. Those were helpful elements at the time, but they occasionally need to be evaluated and pruned to support future growth, however you define it, in the family business. ///

Email Lance Woodbury at
lance.woodbury@pinionglobal.com

ILLUSTRATION: GETTY IMAGES

AE50 Award Winners

By **Dan Miller**, @DMillerPF

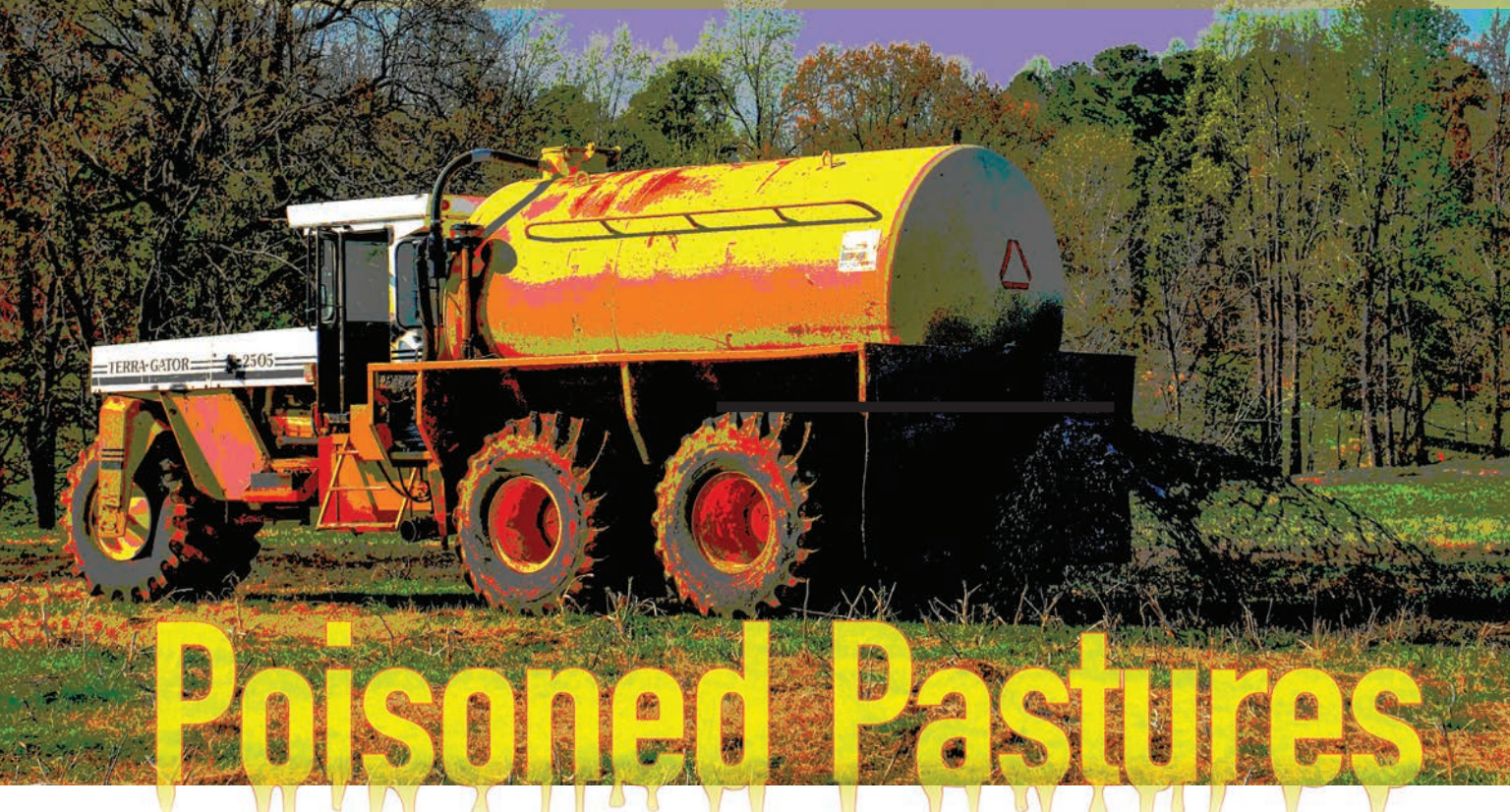
Fendt's Momentum 30-foot planter brings advanced planting benefits to smaller farms.

Faster, more powerful, autonomous technologies lead this year's honorees.

The American Society of Agricultural and Biological Engineers (ASABE) has announced this year's AE50 Awards for innovation. Here are winners:

- **Fendt (AGCO) Momentum 30-Foot Planter** brings advanced planting benefits to smaller farms, with 100-bushel seed capacity and 800-gallon liquid fertilizer capacity.
- **Fendt (AGCO) ErgoSteer Joystick** is a retrofittable steering joystick for Fendt 500 to 1000 Series tractors that allows tractor control with minimal movement from the driver.
- **AGCO Parts' Application Lift System** allows operators to lift and exchange application systems (usually dry to/from liquid) at their own locations.
- **Precision Planting (AGCO) ReconBlockage Sensor** prevents skips and yield loss when seeding and fertilizing by using acoustic sensors to detect flow variance by section.
- **PTx Trimble (AGCO) OutRun Grain Cart** solution allows operators to position grain carts around fields and autonomously match speed and distance with combines for on-the-go unloading.
- **Case-IH (CNH) Axial-Flow 260 Series Combines** maximize production and grain handling with single-rotor Case IH harvesting technology.
- **Case IH AF 9, 10, 11 Combine Series (CNH)** has been redesigned to maximize capacity and crop flow.
- **Case IH C500 Series Corn Head (CNH)** was created to pair with AF and 260 Series combines delivering grain savings and improving performance.
- **Case IH Large Square Baler Automation (CNH)** automatically adjusts tractor speed and steering to match windrow volume.
- **Case IH Quadtrac Heavy-Duty Suspension (CNH)** supports faster transport speeds of up to 26.5 mph.
- **Case IH Model Year 2025 Magnum (CNH)** with 21 x 5 PowerDrive transmissions and Automatic Productivity Management 2 manages the driveline and engine while optimizing fuel economy.
- **Case IH Modular Tramline System (CNH)** offers industry-leading 20-inch planter tramline compatibility.
- **New Holland IntelliSense Bale Automation (CNH)** integrates SmartSteer swath guidance to keep the baler in the middle of the windrow.
- **New Holland CropSpeed Monitoring System (CNH)** increases productivity using radar technology.
- **New Holland UltraFeed Pickup Head (CNH)** is designed to handle larger windrows and improve crop flow through the harvester.
- **LEXION 8900 TERRA TRAC (CLAAS)** delivers 779 max horsepower and makes autonomous and automatic real-time in-field adjustments.
- **JAGUAR Earlage Adapter (CLAAS)** integrates a combine-style multicoupler to help increase capacity, reduce overthrow and provide greater wear resistance.
- **JAGUAR V-FLEX Drum (CLAAS)** is a flexible cutting cylinder with a three-bolt knife design, 10-degree knife angles and 21% more wear protection coating for a longer service life.
- **John Deere 9RX 710, 770 and 830 Tractor** models, powered by Deere's Final Tier 4/Stage V-compliant JD18 engine, eliminate the need for diesel exhaust fluid.
- **John Deere 300M Series Self-Propelled Sprayers** are highly maneuverable and are fully integrated with John Deere precision ag technology.
- **John Deere Implement Control Mode (ICM) With eDrive Kit** creates the ability to off-board electric power generated by an EVT transmission.
- **John Deere See & Spray Premium** is a Precision Upgrade for existing sprayers used on corn, soybean, cotton and fallow fields.
- **John Deere C-Series Air Carts** offer reduced maintenance and improved seeding accuracy with corrosion-resistant AccuRate stainless-steel meters and Deere's EZCal calibration system.
- **John Deere 5ML Tractor Cab** is designed for the tight spaces in orchards and vineyards. The 5ML brings a new cab and gives operators access to Deere precision technology, such as JDLink and AutoTrac guidance.
- **John Deere AutoSelect Pulsing** with multi-rate is a new functionality that delivers multiple rates across the self-propelled spray boom.
- **John Deere Milk Sustainability Center** is a cloud-based dairy solution integrating machinery, milking equipment and herd management onto one platform.
- **John Deere Active Slope Adjustment** provides active material redistribution on the cleaning shoe by a variable speed conveyor belt during sidehill operation. ///

Story and Photos By Chris Clayton, @ChrisClaytonDTN



Poisoned Pastures

These Texas ranchers are dealing with the effects of forever chemicals in biosolid fertilizers, resulting in cattle deaths, poisoned water and health issues.

Tony Coleman walked around a small part of his family's 325-acre pasture behind his rural house calling for "Tank." A Black Baldy bull eventually meandered up, and Coleman started to rub the bull's face.

"He just wants me to love on him," Coleman says about the bull. "Daddy's baby boy."

Tony and his wife, Karen, bottle-fed Tank in their garage after the bull's mother died during birth. Talking about their poisoned land that has led to at least 47 of their cows and calves dying from problems such as liver disease, the Colemans are emotional about their fear for Tank's health.

"We became his mom and dad, and so for us, you know, I've grown up on the farm, and people have always said, 'How do you eat what you raise?' Well, for me, that's just part of life," Karen Coleman explains. "It's different to process a cow for your nutritional needs versus having to euthanize everything you have worked for. But, if we have to euthanize that bull, that's going to leave a hole that can't ever be replaced."

The Colemans are at the center of one of the most-watched environmental lawsuits in the country against the U.S. EPA and the company that offers biosolid fertilizer outside of Fort Worth, Texas.

The Colemans, Karen's mother, Patsy Schultz, and their neighbors—James Farmer and wife, Robin Alessi—shared their story with DTN/*Progressive Farmer*, describing what they have faced since learning about the term "forever chemicals."

Tony Coleman pets his Black Baldy bull, Tank, in the family's pasture outside of Grandview, Texas.

PHOTO BY BOYD KIDWELL, PHOTO ILLUSTRATION BY BRENT WARREN

Contamination in Johnson County, Texas, has reached a point that the county commissioners court recently voted to request Gov. Greg Abbott declare the county a disaster area, which could lead to federal support for farmers impacted by long-term biosolid applications.

EPA SUED IN FEDERAL COURT

The Johnson County, Texas, farmers, along with their county government, the Maine Organic Farmers and Gardeners Association and Potomac Riverkeeper Network, have collectively sued EPA in federal court for failure to regulate per- and polyfluoroalkyl substances (PFAS) in biosolids, also known as sewage sludge.

PFAS make up a group of thousands of synthetic chemicals that are especially resistant to heat and water, leading them to be typically dubbed as "forever chemicals." PFAS and associated chemicals—including PFOS (perfluorooctanesulfonic acid) and PFOA (perfluorooctanoic acid)—accumulate over time in land, water, plants, fish, animals and people. EPA has classified them as likely carcinogenic, and they are known to concentrate in organs such as the liver, kidneys and gall bladder.

Over the past seven years, high contamination levels have shut down a dairy farm in New Mexico, at least one beef operation in Michigan and multiple farms across Maine—the only state so far to outright ban the use of biosolids as fertilizer. Michigan requires testing biosolids now before they can be applied to the land.

Based on 2022 data from larger facilities nationally, EPA estimates there are about 1.2 million tons of biosolids applied on farm ground nationally and another 906,000 tons utilized in home gardens and landscaping, and on golf courses and for other uses.

Just because a wastewater plant produces sludge for biosolids doesn't necessarily mean it is a high dose of forever chemicals, but cities with high volumes of chemical-related manufacturing are more likely affected.

DRAFT RISK ASSESSMENT

In one of EPA's final acts under the Biden administration, the agency on Jan. 15 issued a draft risk assessment on PFAS chemicals in biosolids. EPA warned that the risks can exceed the agency's safety levels "sometimes by several orders of magnitude." EPA's fact sheet for farmers recommended they "consider an alternative source of fertilizer from biosolids moving forward, especially if your farm might be vulnerable to PFAS impacts." EPA cited both dairy and beef cows that graze pastures where sewage sludge was applied, as well as pasture-raised hens, and vegetable operations as risks.

"That's what they are saying is don't use biosolids because it is risky, which is a very surprising thing to have EPA say after all of this time," says Mary Whittle, a Texas environmental attorney representing the Colemans, the Farmers and others. "I mean, they have had their heads in the sands, and as soon as they give it even the tiniest look, that's when they see that our concerns are correct."

James Farmer faces an uncertain future on his small, diversified farm because of forever chemicals.

LAWSUIT IN STATE COURT

In state court, the Colemans, Farmers and other neighbors are also suing the companies that applied sewage sludge from the Fort Worth wastewater treatment plant in surrounding counties—Synagro Technologies and a smaller, regional company, Renda Environmental. Synagro contracts nationwide to dispose of sewage sludge, typically by applying it as biosolid fertilizer for farms. The lawsuit goes beyond PFAS to cite other chemicals typically found in biosolids, as well.

Synagro released a study in mid-March examining PFAS and biosolids in Johnson County. The report, which was led by a Purdue University professor, concluded Synagro's Granulite fertilizer products could not have been the source of PFAS levels found in the fish and animals on nearby properties, and another source must be to blame. Still, Fort Worth ended its contract with Synagro in late March, but the city paid the company $2.4 million for ending its contract early.

PLIGHT OF LANDOWNERS

Patsy Schultz and her husband, Jim, bought their piece of land in 2006 and built their home four years later. Jim was a mechanic who worked at a helicopter plant and later at an electric company for 24 years. A farm boy from Kansas, he wanted a little land in a rural area and a few cows.

He found the perfect spot outside of Grandview. "When you are out in a place like this, you don't want to go back to the city," Patsy says, looking out her back window to cows grazing outside.

Jim died of liver disease in 2018.

While they are in the middle of a highly technical and potentially groundbreaking lawsuit, the Colemans and ➤

the Farmers see everything they worked for all their lives being destroyed in front of their eyes.

"We never even knew what PFAS was until spring of '23," Tony Coleman points out. "It's a very complicated subject just trying to wrap your head around what PFAS and PFOS are."

The Colemans and Farmers also didn't actually apply biosolids on their land. Their contamination came from a farmer with property uphill from their land who received biosolids from Synagro but, on at least one occasion, left it stacked for weeks until he could apply it.

Heavy rains and runoff would wash erosion down into the Colemans' and Farmers' land and shallow water table just off the large creek running by.

PFAS LEVELS TESTED

After a stack of biosolids from Synagro was piled on the neighbor's field in November 2022, it sat there for weeks and smoldered. The neighboring families complained about the stench. The Colemans and Farmers describe the kind of odor from the piles as the kind that would "knock a buzzard off a gut wagon." James Farmer stresses it was like rotting carcasses.

"You would walk outside, and it would make you want to throw up," he says.

After complaints and concerns, the county's environmental investigator took soil samples, as well as samples from ponds and wells.

The soil tested as high as 6,291 parts per trillion (ppt) of PFAS chemicals. Patsy Schultz's well water was 268 parts per trillion. Investigators came back and tested dead fish out of the Farmer's pond that showed 74,460 ppt, and one of the Colemans' stillborn calves tested at 620,228 ppt of PFAS.

To put that into context, if a person ate 8 ounces of fish out of Farmer and Alessi's pond, the risk would exceed EPA's recommended daily exposure levels by 30,000 times. If someone ate the liver from the calf, it would have been 250,000 times EPA's recommended safety levels.

The county investigator then tested Synagro's fertilizer and found 27 different PFAS chemicals, with the sample hitting 35,610 ppt. High concentrations of at least eight different PFAS chemicals showed up on the Schultz/Coleman and Farmer properties.

During that same time, the Colemans also started losing cattle.

Affected calves are born stillborn or can die shortly after birth. The cattle often have very specific symptoms, Karen Coleman says. "At the end, they start having a

very toxic gait, and you can just tell." The cows also become more aggressive, even if they go lame and can't get up. "It's just heart-wrenching to know there's nothing you can do. It's just helplessness."

Their dead cows now go to Texas A&M University for necropsies. "All of the cows test positive for liver disease," Tony Coleman explains.

DREAM TURNS TO NIGHTMARE

A stone's throw down the road from the Colemans' farm is Farmer and Alessi's. Like the Schultzes and Colemans, Farmer worked his whole life to be able to afford a small place in the country where he could raise a few animals in his spare time.

"I wanted to put in a peach orchard and a couple of other things out there, and now that dream is gone," Farmer explains. "I wanted to make something where I could just make a little profit off my land. Now, I come home and think: 'Why do I want to waste time trying to take care of it anymore?' "

Farmer and Alessi own a smaller piece of ground, about 17 acres, but would normally have about 10 cows on their land, along with a handful of horses, chickens, turkeys and peacocks. Their cows frequently commingle with the Colemans' cattle, and they have faced the same challenges—stillborn calves and cows that simply lose their ability to stand.

"They drop on their back ends, and they can't get back up," Farmer stresses.

Alessi loves horses and brought them from Alaska when she moved to Texas. They have lost four because of unexplained neurological issues. Two of the horses just laid down and died, while two others were euthanized.

Farmer and Alessi also have taken dead horses to Texas A&M for testing.

COUNTY SEEKS DISASTER DECLARATION

The Johnson County Commission Court's vote was the culmination of years of testing and warnings by county officials advising farmers not to use biosolids.

"The only way we can get federal assistance is through a governor's disaster declaration," stresses Larry Woolley, a Johnson County commissioner. "Until recently, we didn't know if we were on solid ground to make that request."

Woolley adds, "This entire thing is being done to help the Colemans, the Farmers and whoever else to pursue federal assistance to euthanize their herds and dispose of the carcasses, and hopefully figure out some kind of mitigation efforts on their land."

The turning point for Johnson County officials came last December when Texas Attorney General Ken Paxton filed a lawsuit in the county court against 3M ➤

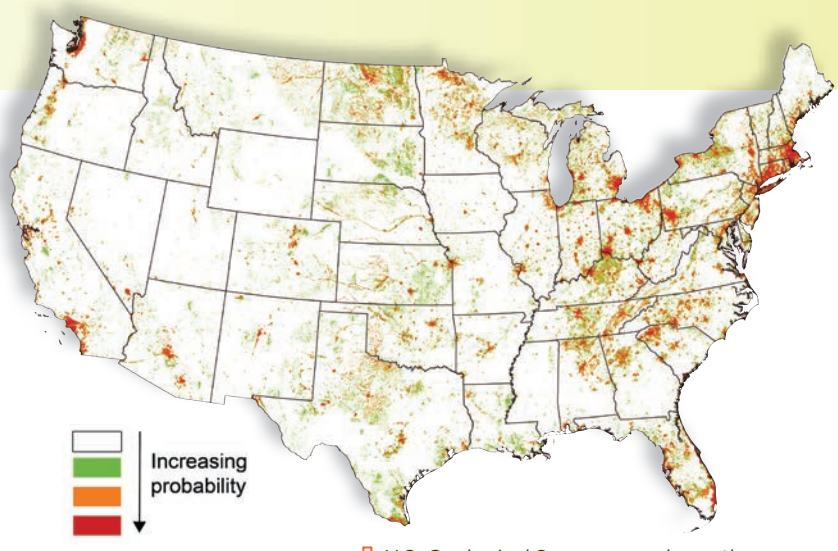
PHOTO ILLUSTRATION BY BRENT WARREN

and former DowDuPont companies—two of the country's largest producers of PFAS chemicals. Paxton's suit was moved to federal court in Texas in January.

Woolley says county commissioners met with Texas Agricultural Commissioner Sid Miller in early January over the disaster request, and Miller expressed support for the idea.

"The timing is kind of perfect now that there have been two bills introduced in the current legislative session to test all biosolids intended for land application," Woolley says.

The county's resolution calls on Gov. Abbott to support the bills in the legislature.



U.S. Geological Survey map shows the probability of PFAS in groundwater at the depth of public drinking water supplies.
SOURCE: USGS

Using biosolids as fertilizer is a longstanding practice in the county, Woolley continues. He was an agricultural teacher and also worked with banks on determining collateral inventory for agricultural loans.

"It's huge," he says. "We're talking thousands of acres that have been applied."

PFAS testing also isn't cheap. Over the past few years, Johnson County has spent roughly $35,000 on testing for the chemicals.

The county wasn't allowed access to the property near the Colemans and Farmers where PFAS was applied. But, the county investigator took soil samples on the county road near the fence, which is where it recorded some of the highest levels in the soil.

"That's just one isolated site where we have had significant death losses, whether it is cattle or fish," Woolley says.

Another future problem Johnson County faces is that more people are moving there. The population has grown 20% since the 2020 Census. People are selling tracts of land to developers who want to build in one of the few areas of open space left right outside of Fort Worth. A lot of those new homes will be using well water. "It's a huge concern," Woolley points out.

Tony Coleman's cow/calf operation has suffered livestock death from high doses of forever chemicals in his soil, water and livestock.

> UNCERTAIN FUTURE

After getting the test results nearly two years ago, the Coleman and Farmer families realized they couldn't sell food from their farms anymore. They also shouldn't eat fish from their ponds, and they had to install state-of-the-art filter systems on their water even though they no longer use it for drinking.

"There's no law that says we can't sell our cattle, but it's human conscientiousness," Tony Coleman says. "Why would I want to hurt your family by them eating something I sold? That would make us no better than the people who are producing this crap and coming out here and spreading it on someone else's farm."

He adds, "It's been like a nightmare. You do everything you can to try to raise the best beef you can because you want to get the best price for it. Who in their right mind came up with thinking that spreading waste from a city on farmland to grow food was a good idea?"

James Farmer gets emotional talking about his family visiting the place. He built a pavilion around the pond shaded by trees to create a perfect fishing and barbecue spot.

"I have nephews and family that love to fish and want to come out here and have a fish fry, and I have to tell them we can't eat the fish," he says.

Alessi adds, "It's really hard to explain that to a kid. So, we just throw them (the fish) back. We have to." ///

Visit **bcove.video/3CPmTm8** or scan the QR code (right) to watch a video interview with Tony Coleman.

Watch the Video

DTN

Classic Technology

By **Dan Miller**, @DMillerPF and **Gregg Hillyer**, @GreggHillyer

New Holland Precision Sprayer

There was plenty of machinery on display at the winter farm shows, but it was the tech inside the equipment that drew the attention.

The 2025 winter farm shows offered plenty of new technology and equipment. DTN/*Progressive Farmer* worked the aisles at the National Farm Machinery Show and Commodity Classic. Here are some of the best.

Davidson Prizes Awarded

Davidson Prizes were awarded opening day at the 2025 Commodity Classic. Davidson's were given to:

➤ **Bondioli and Pavesi** won a Davidson Prize for its Electronic Data Interchange (E.D.I.) Driveshaft. The E.D.I. Driveshaft monitors torque, thrust, rotational speed, joint angles, vibrations, tube overlap, cross kit temperatures and hours worked.

➤ **CNH America** was awarded a Davidson Prize for its IntelliSense Bale Automation (New Holland) and Large Square Baler Automation (Case IH). Bale automation uses LiDAR (light detection and ranging) to measure windrow volume and, by that, provides optimal steering inputs and controls forward speed.

➤ **AGCO PTx Trimble** earned a Davidson Prize for its OutRun autonomous grain cart solution. OutRun is a self-contained retrofit kit mounted to the roof of tractors. OutRun will be commercially available for the AGCO Fendt tractor in 2026 and is now available for certain Deere models.

AGCO PTx Trimble OutRun Retrofit Kit

OutRun Autonomous Grain Cart

It allows the grain cart to be staged or called for unloading without an additional driver. Using a tablet, the combine operator can:

- **stage or position the grain cart around the field**
- **call for a pickup** (command the grain cart to navigate to and align with the combine for an unload on the go)
- **send to truck** (send the grain cart to a predefined truck unload zone so that the grain cart can be unloaded).

The OutRun kit uses radio technology to maintain communication between the combine and grain cart within a 1-mile radius.

The Davidson Prize recognizes cutting-edge innovation shaping the future of agriculture.

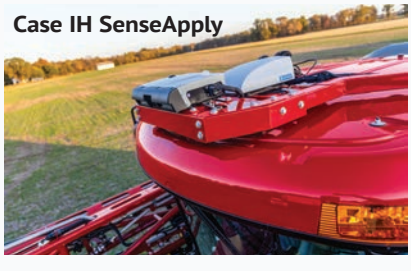
New Holland, Case IH Announce Precision Sprayers

CNH Industrial brands New Holland and Case IH introduced new precision sprayer automations—IntelliSense Sprayer Automation (New Holland) and SenseApply (Case IH).

IntelliSense Sprayer Automation and SenseApply feature a cab-mounted, forward-looking, multispectral vision SenseApply camera enabling IntelliSense Sprayer Automation and SenseApply to scan the field out to 50 feet in front of the sprayer and along the length of the boom. IntelliSense Sprayer Automation and SenseApply have three operating modes.

- **Selective Spray.** Selective Spray includes Spot Spraying and Base + Boost functions. Spot Spraying is ➤

New Holland IntelliSense Sprayer Automation



Case IH SenseApply


Case IH SenseApply

a green-on-brown capability (bare or residue-covered fields) activating targeted sprays onto weeds.

- **Base + Boost.** Base + Boost applies a uniform base rate across the boom, while activating a targeted maximum rate, or boost, in areas with high weed pressure.
- **Live Variable-Rate (VR) Application.** Full-season live VR applications with functions for nitrogen applications, plant growth regulators, fungicides, harvest aid and burndown.

IntelliSense Automation is available for model year 2026 Guardian series front boom sprayers—SP310F, SP370F and SP410F. SenseApply is available on model year 2026 Patriot 50 series sprayers and Trident 5550 combination applicator. Selective Spray requires a one-time activation fee. There are no annual subscription or per-acre fees.

Deere Offers Autonomous Tillage Technology

John Deere is closing in on building its entire tillage line with the capabilities to conduct autonomous field operations, those tools drawn by tractors autonomy-ready with Deere's newest "next-generation perception system."

Deere's next-generation perception system is an autonomy upgrade kit for model year 2022 and newer 9R and 9RX tractors, and model year 2020.5 and newer 8R and 8RX tractors. Select model year 2025 John Deere tractors are autonomy-ready from the factory.

"[Tillage] is the first production step that we're bringing autonomy to on the large ag side of business," says Michael Porter, go-to-market manager for large tractors and tillage at John Deere. "Every few months, we're rolling out either an update to an existing [tillage tool] to include [an] autonomy-ready [kit] or with a new tool autonomy-ready from the factory. The goal is to get all John Deere tillage tools autonomy-capable."

Deere offers precision upgrade kits for 2017 and newer Deere tillage implements, including lighting, StarFire receiver mast and harnessing. Autonomy-ready solutions are factory-installed for select 2025 tillage tools.

Deere's new High Speed Disk (HSD) line is autonomy-ready from the factory, including receiver mast, harnessing, lighting package and TruSet (improves tillage depth accuracy). Customers must add a StarFire 7500 receiver to connect HSD with an autonomous tractor.

Other autonomy-ready tillage tools already part of Deere's stable include the Coulter Chisel (CC series), 2430 Chisel Plow, five-section 2230 Field Cultivators and the 2660VT.

Deere's autonomous tractor perception system is 16 cameras mounted to the tractor cab roof, creating a 360-degree view around the tractor and tillage tool. "[Autonomous operators] have the ability to remote view into these cameras and watch tillage happening," Porter explains.


Deere Autonomous Tillage


Hesston by Massey Ferguson Double Baler

Double the Production

Progressive Farmer did a walk-around of the new Hesston by Massey Ferguson double bailer (SB.1436DB) with Jessica Williamson, marketing manager, Massey Ferguson hay and harvesting.

At 9,600 pounds, there's a lot of machine here for a small square baler. "We have a big, wide pickup," Williamson says. "It's 105


Deere See & Spray Select VR

inches from panel to panel, with a big auger system that's going to do a great job of increasing the capacity of this baler."

The SB.1436DB baler has one chamber, one plunger and a separating knife to create two bales. Completed bales are dropped into independent rows. The baler brings automation to bale density, weight and dimensions with Massey Ferguson's SimplEbale system.

Twine storage bins hold 20 balls of baling twine, producing up to 8,000 bales before refilling. The automated knotter lubrication minimizes manual intervention.

Deere Adds VR To See & Spray Select

See & Spray Select was the first sense and act technology introduced by John Deere. Select controls weeds in fallow fields. Deere has now added variable-rate capabilities to Select for applications of later-season fungicides, desiccants, preharvest applications and others.

See & Spray Select VR will be available from the factory on model year 2026 John Deere 400 and 600 series sprayers, and as a precision upgrade kit for model year 2018 and newer John Deere sprayers with ExactApply and a 120-foot steel boom.

Deere's Productivity Updates For 2026 Combines

Deere is adding weeds as an additional controlling input to its Predictive Ground Speed technology for market year 2026 S7 and X9 combines.

Two factory-installed stereo cameras on the S7 and X9 machines measure crop height and mass to automate ground speed. Predictive Ground Speed Automation will newly consider weed patches in adjusting speed. Depending on weed density and operator-defined sensitivity, the combine will adjust its ground speed as it harvests through weedy areas to reduce slugging and help prevent reel or rotor wrapping.

Here are other updates for model year 2026 S7 and X9 combines:

- To help better manage various terrains such as waterways, ditches and terraces, an update senses the presence of these field attributes to adjust ground speed.
- Harvest Settings Automation will include an out-of-crop settings adjustment that engages when the combine is passing through areas already harvested.
- An update to AutoTrac Turn Automation automatically raises and lowers the combine head as the machine crosses specific field triggers, including exterior boundary and interior impassible boundary.

Deere X9 Combine

Next Generation PowerStar Tractors

New Holland is rolling out four new PowerStar models with sleek styling and a wide array of features for a utility tractor.

"Our new series is all about powerful utility," explains Mike Sevick, business manager at New Holland. "It's built to do more than what operators usually expect from a tractor of this size."

New Holland PowerStar 120

A 4-cylinder 3.6-liter Tier 4B FPT engine provides 86 to 117 hp. A 12 x 12 transmission with column-mounted electronic power shuttle is available on the three largest models, while a 24 x 24 Dual Command transmission is offered as an option on all four models.

A sloped tractor hood paired with an optional factory-installed LU Series loader gives maximum visibility from the cab. Relocating the mechanical self-leveling components from the top of the loader to underneath helps clear ➤

the view. The new loader provides more lifting capacity and lifting height, and faster cycle times thanks to a 21.7-gallon-per-minute implement pump, a 35% increase over prior models. A quick connect hydraulic coupler on the side of the loader eliminates individual hoses.

Inside the cab, is a new air-suspension seat and a new digital instrument cluster to provide greater insight into operating parameters and settings. Directly overhead, a new super-high visibility panel offers outstanding views when the loader is raised.

The new PowerStar series tractors will arrive to dealers in Q4 2025.


Kubota MX4900

Kubota Utility Tractor

Kubota has introduced many iterations of its MX series tractor since it was first launched in 2001. Its latest addition to the series is the MX4900. It provides all the workhorse capabilities expected of a utility tractor but at a lower price point in the MX series lineup.

"The neat thing about this new model addition is that you don't lose anything from a loader perspective or from a hydraulics standpoint," explains Tyler Weyenberg, Kubota product manager.

There are two types of transmissions available on the MX4900: a gear drive transmission that boasts a 50.3-hp turbocharged engine with eight forward and eight reverse speeds; and an HST transmission model with a 51.8-hp turbocharged engine and three-range speed. Both are powered by a Kubota electronically controlled fuel-injection diesel engine, the same engine in Kubota's MX5400 and MX6000.

The MX4900 offers added comfort features in both ROPS (rollover protective structure) and cab models. They include a spacious operator station, simplified and ergonomically placed controls, optional suspension air-ride seat and all-new optional dealer-installed LED lighting kits.

The optional LA1065A front loader offers high lift capacity, lift height and breakout force to handle heavy-duty jobs, and features simultaneous lift and dump capabilities of the loader and bucket.

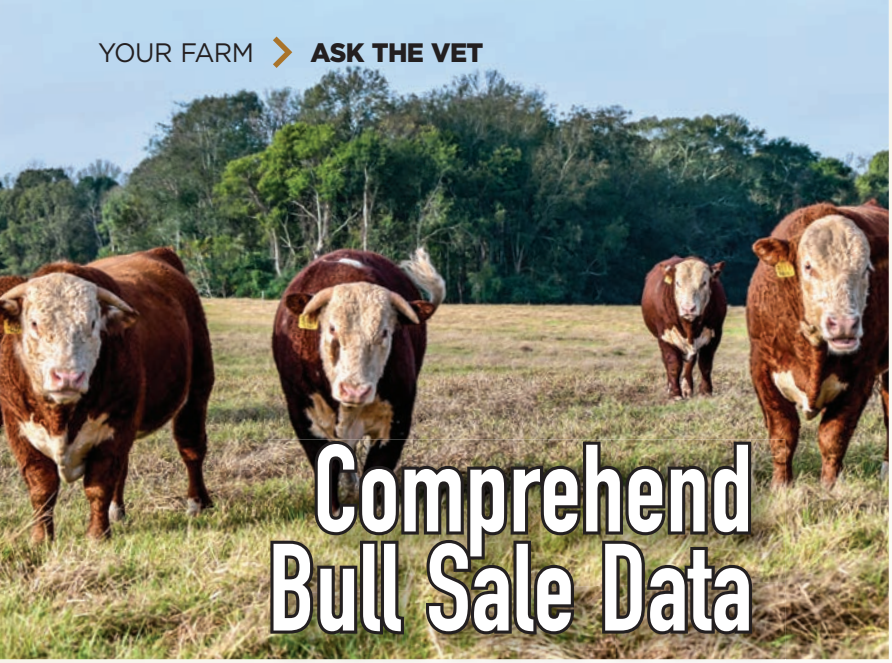

Massey Ferguson MF 1M.25

New Compact Tractors

Massey Ferguson ushers in a new lineup of compact tractors, built with wide versatility for smaller agricultural operations.

Included in the 2025 model year:

- **Premium Series** (24.8 to 60.3 hp). The flagship MF 1M.25 includes the first factory fitted cab on a 25-hp tractor, notes Kevin Lewallen, tactical marketing manager. Tractors in the series are designed for daily use and excel in performance and a variety of applications, he adds.
- **Compact Economy Series** (24 to 57.3 hp). The tractors balance affordability with capability and offer a variety of horsepower options and transmission choices.
- **Sub-Compact Series** (22.5 to 24.5 hp). Lewallen explains these tractors are ideal for hobby farmers and first-time operators, and they offer versatility and accessibility. ///



Comprehend Bull Sale Data

JENNIFER CARRICO

Email Dr. Ken McMillan at ***vet@dtn.com***

Q *We are looking for a bull, and the sale we are looking at has both EPDs and indexes for all the bulls. They are very different for the various breeds. I am confused with all this data.*

A **DR. McMILLAN:** Let's start with EPDs (expected progeny differences). The numbers predict the expected performance of an animal on a single production trait compared to other animals within the same breed. EPDs can't be compared across breeds without applying across-breed EPD (ABEPD) adjustment factors.

EPDs start by assuming a 50% contribution from the dam and sire. In most breeds, genomic testing can increase the accuracy and reliability of an animal's EPDs. Depending on the trait, genomically enhanced EPDs (GE-EPDs) can increase the accuracy equal to having the data on eight to 35 calves. EPDs also change and become more accurate as producers report data to the breed associations on the animal's performance, the performance of progeny and the performance of other relatives.

The trait names and numbers can be confusing, and different breeds express things a little differently. Calving-ease direct EPD is expressed as a percentage of unassisted births, with a higher value indicating greater calving ease in first-calf heifers. The EPDs for birthweight, weaning weight and yearling weight are expressed in pounds and are a predictor of a sire's ability to transmit each of these to his progeny. The milk EPD is a predictor of a sire's genetic merit for milk and mothering ability as expressed in his daughters compared to daughters of other sires. Rib eye area is expressed in square inches, and scrotal circumference is expressed in centimeters. This only scratches the surface of the EPDs offered by many breed associations.

EPDs can be a powerful tool to improve your herd. Several years ago, we looked at the hard data from calves we sent to the feedlot and visual assessment of the cows, and determined we needed to increase rib eye area, marbling and udder quality while decreasing our mature cow weights. We looked for bulls—both to purchase and for artificial insemination (AI)—that had very good EPDs in these areas. These four areas were our focus, but we made sure the rest of the EPDs also fit with our goals. We feel we have made great progress using EPDs in this manner.

> EPD Indexes

If you are still confused at this point, here come the EPD Indexes. Breed associations realized this confusion and created indexes based on specific goals to hopefully simplify the process, especially for commercial producers. They combine various EPDs and economic factors in a special formula to reflect the value of an animal compared to other animals within that breed relative to these goals. Indexes are expressed in dollars per head, so comparing them is a little easier.

The American Angus Association created the Angus $Values with several multitrait selection indexes. Here are some examples. Weaned Calf Value ($W) focuses on preweaning value. Feedlot Value ($F) focuses on postweaning value. Grid Value ($G) focuses on carcass grid merit. Beef Value ($B) looks at the future progeny performance for postweaning and carcass value compared to progeny of other sires, and combines the contributions of $F and $G.

Each breed has a little bit of a different twist. The American Hereford Association has two indexes that focus on crossbreeding, the Baldy Maternal Index (BMI$), which looks at maximizing profit for commercial cow/calf producers who use Hereford bulls in rotational crossbreeding programs on Angus-based cows. The Brahman Influence Index (BII$) does the same thing for Hereford bulls used on Brahman cows. The Certified Hereford Beef Index (CHB$) is a terminal sire index, where Hereford bulls are used on British-cross cows, and all offspring are sold as fed cattle on a CHB pricing grid.

If you are still confused, talk to your veterinarian, Extension agent or other producers, or visit some of the farms with bulls consigned to the sale. Most seedstock producers would welcome a visit and a chance to show off their cattle and operation. ///

CATTLE LINK

Story and Photos By **Becky Mills**

Forage Diet Nourishes Quality Meat

Producers use a diverse menu of grasses to graze and finish their beef cattle.

If your idea of a perfect steak includes the description "grain-finished," you're in the majority. Only an estimated 5% of the U.S. finished beef supply is forage-finished. However, if you market your cattle as freezer beef, at a farmers' market or to trendy restaurants, you're likely to get requests for grass-finished beef. The good news is it's possible to produce high-quality beef on forages.

THINK LIKE A GRASS FARMER

Chad and Kim Woods regularly get their forage-finished cattle into the equivalent of the low Choice grade, but they had a head start. Kim's father and uncle ran a dairy and were grazing their Guernsey cattle on a mix of high-quality forages before grass-based dairies were common.

"They were doing rotational grazing in the '80s," Chad says. While Kim's uncle has passed away, her dad, Sam, 90, is still a partner in Spring Crest Farm, along with Kim's mom, Gail, who also have the last name of Woods.

"He (Sam) was innovative with soil and pasture management, he was open-minded and worked with the soil and water," Chad continues. "It was really good for Kim and me."

While still in the dairy business, the couple used alfalfa and orchardgrass at times for grazing. However, neither forage handled the hot summers well. So, three years ago, when the Woodses swapped from selling horse hay to a forage-finished beef enterprise, they settled on novel endophyte tall fescue after seeing how well it did for hay. While they still have some Kentucky 31 tall fescue on their Hurdle Mills, North Carolina, operation, the toxin found in Kentucky 31 slows down gains, hampers reproduction and milk production, and makes cattle more susceptible to heat stress. As a result, they have already renovated around 100 acres with Martin 2Protek.

"It's done well. We've grazed it close. We've hayed it. We've spring stockpiled it. It is a little hardier," Chad explains. He thinks the variety is also more upright than most of the other novel endophyte varieties, a characteristic they want to have the option of cutting it for hay. Once it's established, and they know they don't have a weed problem, they add ladino and red clovers to the grazing mix.

That mix is by no means their only forage. In November, after fenceline weaning their calves on hay and brewers' grains for a couple of weeks, the calves go on winter annuals, normally wheat and oats, for a few more weeks. Next, they'll go to stockpiled fescue until early spring, when the high-quality winter annuals take off again. "They'll gain 3 pounds per day, 2.5 pounds, easy," Chad notes. On stockpiled novel endophyte tall fescue, they'll still gain around 1¾ pounds per day.

After the flush of spring forage, the finishing steers go back to fescue until the summer annuals, often crabgrass or sorghum sudangrass, are ready to graze.

EVERY BITE COUNTS

In Hope Mills, North Carolina, Paige Smart also grazes her finishing cattle on a variety of forages. "We use a little bit of everything, a mix. We're intentional about where we plant and what. Every bite counts," she explains.

Smart and her brother/business partner, Ryan Kennedy, try to plant forages with the highest sugar content possible, as long as they are adapted to their area and the season.

Chad Woods
Hurdle Mills, North Carolina

"In the cool season, we are heavy on ryegrass and oats," Smart says. "We also try to include rapeseed, kale or radishes." Rapeseed is her favorite because it adds extra energy to forage mixes and is resilient.

"In the summer, we might use small amounts of supplemental feed," she continues. "Bermudagrass and crabgrass are never going to give us the rocket gains like we get from the cool-season grasses." In addition, they plant a limited amount of sudangrass.

"We also grow alfalfa," Smart adds. "We bale it and flake feed it. It feeds so incredibly well and gives the cattle a boost."

Clemson University animal scientist Susan Duckett gives that practice two thumbs up. "In the consumer studies we've done, there was a preference for cattle finished on alfalfa," she states.

Kim and Chad Woods produce quality beef and high-quality forages on small amounts of supplemental feed.

RELY ON PADDOCKS

No matter what the forage, both Woods and Smart are firm believers in rotational grazing. "Rotational grazing allows you to utilize forages more effectively and efficiently," Kim Woods says. When their herd is confined to smaller areas, they don't do as much selective grazing and graze the whole paddock evenly. That also means their forages get a rest period before being grazed again. When they go to a new paddock, they have more nutritious, young, tender forages waiting for them.

Using a "take half, leave half" philosophy, they try not to let their cattle graze below 6 to 8 inches. "That helps increase the soil cover and the soil microorganisms," she explains.

Chad Woods adds rotational grazing is a good drought management tool. "The cover lowers the soil temperature, and the roots create pockets in the soil. There is better moisture retention."

Kim says the frequent moves, sometimes daily on their farm, also help with cattle management. "It can put you around the animals more often. You can see a slow limp or a bad eye. They also get used to you being there, and they associate you with something good—fresh grass."

Adds Smart, "Never underestimate the power of rotational grazing."

SUPPLEMENTAL FEED, AS NEEDED

For the Woodses, their supplement of choice is wet brewers' grains. While it is around 75% moisture, on a dry matter basis, it averages around 10 to 12% crude protein and 74 to 75% total digestible nutrients (TDN).

During the finishing phase, the producers feed up to three quarters of 1% of body weight per head per day, once again on a dry matter basis.

They market most of their beef through Firsthand Foods, a Durham, North Carolina, food company that buys cattle, hogs and lambs from local farmers, has them processed and sells to restaurants, meat markets and individuals. Firsthand Foods allows cattle to be supplemented with up to 1% of their body weight per day as long as the supplement doesn't contain high-starch ingredients; however, the Woodses usually feed the lower percentage of the body weight.

"Brewers' grain fits that to a T," Chad says.

They get the brewers' grains from a local brewpub. "It is full circle," he adds. "They use our beef in their restaurant, and the brewers' grain doesn't go in the landfill."

North Carolina producer Smart also relies on a supplemental feed when her forage isn't at its best quality. "The programs we target don't allow corn or corn byproducts, but they do allow supplementation up to 2% of body weight with products like soy hulls," she explains. "For three or four years, we did that, but then we looked at the books. We decided we could stock fewer animals, feed less supplement and finish them longer."

AGE MATTERS

Clemson's Duckett says, "One of the keys to meat tenderness is animal age. Research shows that cattle less than 20 months old are more tender. Some people try for a certain weight. Get what you can, and let them go."

The Woodses find that marketing older animals works better in their program. "We harvest our

forage-finished calves at 24 to 28 months," Chad explains. "We have finished some in 20 months, but we weren't happy with the finish and quality." Since Firsthand Foods gives producers a premium for quality, that's a key point. "Chefs don't want Select beef," he adds.

Older calves also work better in Smart's program, where the forage-finished cattle typically grade at the equivalent of mid-Choice. "Of course, we want them to finish under 30 months of age so we can sell them bone-in, but the majority of ours are 24 to 26 months at harvest," she says.

GENETICS COUNT

The Woodses say their Red Angus and Red Angus-Hereford cattle work well in a forage-finishing program. "We knew red cattle would tolerate the heat better," Chad says. This is especially important since they still have some Kentucky 31 fescue in pastures.

He adds, "They do well with longevity, in reproduction, they are good mamas and are good on the rail. Now, we're fine-tuning and trying to buy cows off forage-based farms that will finish well on grass. We're also looking at South Poll. They finish well and tolerate heat," he points out.

When Smart and her brother were custom-finishing cattle on forage, they saw it all, including Longhorn and dairy crosses. Now that they're finishing their own purchased calves, she is more focused on type.

Her favorite is a moderate-framed, heavy-boned animal. "We've had short-framed, gutty animals that finish out at 1,000 pounds, but you lose so much live weight at harvest." She prefers animals that finish out at 1,150 to 1,250 pounds and have a carcass weight of 650 to 750 pounds. "We're getting fantastic performance from crossbred animals—SimAngus, Black Baldy and Charolais-Angus crosses," she says.

Duckett finds that breed isn't as important as keeping the animals on a steady rate of gain with quality forages. "I've eaten some good grass-fed beef from many breeds, and they've always been very palatable." ///

FOR MORE INFORMATION

Firsthand Foods: **www.firsthandfoods.com**

"Grass-Fed Beef Production" Article:
extension.psu.edu/grass-fed-beef-production

"Grass-Fed Beef: Market Share of Grass-Fed Beef" Article:
extension.sdstate.edu/grass-fed-beef-market-share-grass-fed-beef

CATTLE LINK

By Jennifer Carrico, @JennCattleGal

New Beef Plants Set To Open

Facilities in Nebraska and Missouri will source Midwestern cattle.

Two beef plants are set to open for operation in a time of low cattle supplies and tight margins for packers. Despite that, facility supporters plan for success.

America's Heartland Packing, in Wright City, Missouri, was set to open in April 2025, and Sustainable Beef, in North Platte, Nebraska, will open in May 2025.

"The impact the Sustainable Beef plant will make is not only on this city and state, but also the entire region," says Sen. Pete Ricketts, R-Neb. "Agriculture is a part of what we do. If we are going to grow the state, we have to grow agriculture, and this facility represents an investment in that."

Founded in 2020 by a group of Nebraska cattlemen and investors, Sustainable Beef was built to help strengthen the beef supply chain and support local cattle producers. When the Sustainable Beef facility is fully operational, it will kill 1,500 head of cattle per day, employ 850 people and bring a $1-billion impact to the region.

DTN Livestock Market Analyst ShayLe Stewart says the onset of having two new packing plants open in 2025 is significant for the cattle and beef industry. "Producers and feedlot managers remember the days in which shackle space was an issue and how that gravely limited fed cattle and feeder cattle prices," she says.

From a grassroots perspective, more competition in the marketplace is always welcomed and will likely help drive stronger feeder cattle and fed cattle prices as new buyers will need to source cattle for these two plants, she adds.

BUILDING BLOCKS FOR SUCCESS

In 2022, Sustainable Beef partnered with Walmart and brought a unique business model forward, being able to supply these stores with high-quality beef at an everyday low price, Sustainable Beef COO Bill Rupp explains. "The beef industry hasn't seen much change in the processing sector since the 1980s. This plant has true alignment from the producer to the consumers," he adds.

Nebraska rancher Trey Wasserburger is a driving force behind the Sustainable Beef plant. "Our goal is to promote U.S. beef and raise demand, and these are the guys who are going to do it," he says of the relationship with Walmart to market the beef product coming out of the plant.

MISSOURI PROCESSING PLANT

The $800-million Missouri beef-packing facility, America's Heartland Packing, broke ground in

PHOTOS: JENNIFER CARRICO

America's Heartland Packing in Wright City, Missouri, plans to begin processing operations in spring 2025.

AERIAL PHOTO COURTESY OF AMERICAN FOODS GROUP

2022 and was set to begin processing operations in April 2025. Once it ramps up production, 2,400 head will be processed per day.

Jennifer Dibbern, executive vice president of marketing and corporate communications for American Foods Group (AFG), who owns the location, says it is a mixed cattle plant and will pull cattle from the entire region. The plant will employ 1,300 people when it is scaled up to full production.

"America's Heartland Packing is a game changer for Missouri agriculture," Missouri Department of Agriculture Director Chris Chinn said in a news release. "The impact of this plant not only reaches producers but also feed stores, farm supply stores and veterinary clinics in towns across the area as producers retain cattle for processing."

Founders, investors and employees participate in the ribbon-cutting at the Sustainable Beef plant.
JENNIFER CARRICO

CHALLENGES FOR SUCCESS

Success for these plants comes at a challenging time with concern from a business perspective on longevity and sustainably of these facilities. "Given that the U.S. beef cow herd sits at a record low, will those plants be able to find enough cattle to run their operation profitably?" DTN's Stewart asks. "And, the second part that's vital to a packing plant's success is being able to competitively market the meat they cut to a retail outlet."

She points out the contract Sustainable Beef has with Walmart will protect them from some vulnerability. New packing plants in years past have gone out of business because bigger, more established plants have tied up all the retail business, making it impossible for new plants to flourish when they can't market their end product.

Rupp doesn't expect a problem with success at the Nebraska plant based on the support so far and the commitment of those who have invested in it. "We have had five years of building this to where it is now. There are 560,000 square feet of reasons why this plant is going to be successful," he adds.

Officials with AFG are also committed to making the Missouri facility successful. Steve Van Lannen, president and COO, said in a news release: "From the state to the county, the cattlemen to the local community organizations, the support we've received has been remarkable." This plant is part of AFG's commitment for long-term growth in the cattle business. ///

Story and Photos By **Des Keller**

EVERY DAY Is a Fresh START

This Kansas family isn't afraid to explore new ventures.

When it comes to watching costs, diversifying income and seeking new opportunities, the Strnad family in Kansas is fighting the good fight. That's true whether they are shipping their cotton (that's right, cotton is grown in Kansas) to Texas, trying to sell more beef direct to consumers or opening up a much-needed event venue in their community.

Troy and Julia Strnad, along with adult children Sammie and Trey (see photo above), work nearly 10,000 acres along with 160 head of cow/calf pairs, mostly Charolais, based between the towns of Wellington and Caldwell, in the south-central part of the state. They also grow corn, soybeans, wheat and grain sorghum.

Troy credits his upbringing and experience in a family of custom wheat harvesters to shaping how he approaches business.

"We worked from Texas up to North Dakota," he says. "I picked the brains of those farmers. I got to see all the good and the bad on those operations. If something was successful, I asked them why, and if it was bad, I asked them why. That's how my simple mind works."

Sometimes simple solutions present themselves. Strnad Land and Cattle began growing cotton six years ago to take advantage of what they saw as a more profitable crop compared to wheat. There have long been cotton growers in southern Kansas, and there was a gin within an hour of their farm. However, due to ongoing remodeling, the gin's production schedule was delayed. As a result, the family shipped some of their cotton to another gin more than four hours away, in Spearman, Texas.

Julia Strnad and Amy Shoffner at Diamond Springs event venue

DEMAND CREATES INCENTIVE

Turns out folks at the Spearman gin were itching to keep their plant running, needed more production than was generated locally and made it financially advantageous for the Strnads to either haul round cotton bales themselves to Texas or have them picked up by third parties. Continued great service has maintained their business.

"The thing I like most is when the person who hauls your cotton and processes it treats it like it's their cotton," Troy explains. Last year, the Strnads grew 2,300 acres of cotton. "So far, I feel warm and fuzzy inside," he chuckles.

If renovations at a local gin were the catalyst to ship cotton straight to Texas, then the worldwide COVID

pandemic jump-started the Strnads' efforts to sell beef directly to consumers.

"When COVID hit, there were a lot of empty store shelves, and factories were shutting down," Julia says. "We started getting calls: 'Do you have any beef?' I was calling small processors to schedule butcher dates as quick as I could. Soon, you were scheduling those dates a year in advance—the mama cows hadn't even given birth to animals we'd already scheduled."

The Strnads had been selling some of their beef to friends and acquaintances prior, but the pandemic sped up the interest. The event also spurred consumer interest in knowing where their food originated. They market about 25 head per year directly to consumers and through a new local store opened by a friend (see "From Idea to Brick-and-Mortar," on page 42).

"I tell anybody: You need to buy off-the-farm," Julia says. "You'll find out how much better it is, and you help the local economy."

AN OFF-THE-FARM BUSINESS

If helping the local economy is a goal, the Strnads haven't stopped at branded beef. Julia and Troy, along with her parents, Amy and Danny Shoffner, opened an event venue called Diamond Springs in 2023 on land they owned. The venue features a plush 8,000-square-foot building on a pond (**www.diamondsprings.co**). The facility features a full kitchen and separate bride and groom suites to prep for weddings, as well as expansive outdoor patios.

"My Mom and I had been to enough weddings elsewhere that we felt we could use something in this area and thought, 'Why not us?'" Julia explains. "But, it had to be strategic, accessible. We had land that was just off a highway that already had water."

Danny Shoffner generally plants cotton nearby, and Julia and Amy are lobbying for sunflowers and wildflowers so the blooms provide a pretty photographic backdrop.

So far so good. They've garnered a lot of business through word-of-mouth and via social media.

"We did everything possible not to hit $1 million in building it, but it came way closer than we wanted it to be," Julia says. "Troy jokes that if this doesn't work out, we can put hay in the building." She is being humble. Since fall of 2023, they've had 14 events. Diamond Springs has already been used for weddings, bridal showers, business meetings, agriculture meetings and family reunions.

CARBON CREDITS

Along with an event venue and branded beef, the Strnads have also taken steps to increase their already-serious conservation tillage efforts by adding more cover crops in their operation that help trap carbon in the soil rather than in the atmosphere.

Indigo Ag representatives say that as of last year, their programs have earned landowners more than $12 million in 28 states thus far, and the number of acres enrolled with them have increased by more than 300%.

The protocols to measure carbon sequestration credits are relatively new. The industry only started producing credits in 2020. The most commonly used method to sequester carbon is to move to no-till or conservation tillage. As of 2020, only 30% of U.S. cropland used no-till or strip-till.

The use of cover crops, the other significant way to sequester carbon, is considerably less than those using no-till or conservation tillage. But, the potential benefit, sequestration-wise, from cover crops is significant.

Strnad Land and Cattle's carbon sequestration payments via Carbon by Indigo have varied from $11 to $15 per acre since 2022. They have about half their operation in the program, adding cover crops and cover crop mixes as weather and time allow. ➤

Troy Strnad (left) at the tool cabinet; Trey Strnad (center) performing harvest-time maintenance; Sammie Strnad (right) with dogs, Reba and Haggard

"Even though we receive payments, the seed [cover crops] aren't cheap, the weather has to cooperate and we don't always have enough labor to do the work" Julia says.

Carbon sequestration programs did make sense because planting additional cover crops helps provide feed for their cattle, either in the field or baled. Oats can be baled, and the seed can be saved for additional plantings. They use hay grazer (a combination of sudangrass and sorghum). Overall, forages like hay grazer have allowed the Strnads to get another 30 to 60 days of feed in the field when pastures would otherwise be depleted by September.

The family's diversification efforts have been aided by the fact that Sammie, 22, and Trey, 21, have both chosen to return home after college to start their own careers while helping with labor and management. Sammie has largely taken over operation of the cattle herd and has purchased her own farm. Trey farms 700 acres of his own while working for Strnad Land and Cattle. ///

From Idea to Brick-and-Mortar

Kimmy Hagar, who had been selling produce, honey and various other products from her Kansas farm for years, took a bold step in fall of 2023 when she opened the storefront Hagar Acres Farm to Home in tiny downtown Caldwell. The move came in large part due to a conversation earlier that year with her husband, Gene, and best friend, Julia Strnad, of Strnad Land and Cattle.

"'You can do this,'" they told me," Hagar says. "The building was for sale, and we originally wanted to buy it for our daughter, who runs the bakery in town."

Instead, her husband and Julia suggested she open her own shop that sells local products—many of them made by Hagar herself. Incidentally, their daughter's bakery operates nearby, and Hagar Acres Farm to Home (**hagaracresfarmtohome.com**) sells everything from beef, pork and chicken to jams, bread, eggs, teas, spices, candles and skin-care lotions and balms. In all, the store has more than 200 products.

If there is such a thing as a surprise hit at the store, it is the frozen, already-cooked casseroles Hagar prepares for customers to pick up. "I didn't believe that anybody would want to eat them," Hagar explains. She credits Julia Strnad with convincing her. "I use Strnad beef in the casseroles, and up until July this year, I used Hagar Acres chicken. The casseroles were so popular that we ran out of chicken last year. Now, we are raising twice as many."

The popularity of casseroles wasn't the only thing Hagar learned in this venture.

➤ **You can't do everything.** Instead of trying to grow, make or raise the bulk of products for the store, she now has other farms producing the pork and beef. The beef comes from Strnad Land and Cattle. Several farms grow herbs and spices. Another produces cheese.

➤ **If you have a good product, people will meet you where you are.** The store is only open on Thursday and Friday from 3 to 6 p.m., and Saturday 8 a.m. to noon. "At first, everyone thought we needed more hours; but what we've found is that, in a small town, when you have known specific hours and some hours outside of the normal workday, people will come. Our biggest takeaway here is the amount of community support that we have been given."

➤ **Plan for the future.** The Hagars aren't standing pat. They've purchased two additional vacant storefronts and intend to sell the skin/body products from a separate "apothecary" shop. "Our biggest challenges would be getting funds for the buildings we have just down the street so we can grow and expand on the local food resources we have in our community," Hagar says.

New Blood Flow Breakthrough Helps Men Enjoy Strong, Long-Lasting Intimacy – At Any Age

A new discovery that supports nitric oxide production and healthy blood flow gives men across the country new hope for a satisfying bedroom performance

After age 40, it's common knowledge that performance begins to decline in many men. However, a new potency formula is showing that any healthy man can now enjoy strong, long-lasting, and frequent performance at any age.

This doctor-designed protocol, created by leading anti-aging expert Dr. Al Sears, is celebrating its highly effective 5th generation formula, which is already helping men support a healthy performance and libido.

When Dr. Sears released the first pill — Primal Max Black — it quickly became a trusted men's performance helper, promoting bedroom fun across America.

It worked by supporting healthy testosterone levels. However, Dr. Sears knows from almost 30 years in private practice that testosterone isn't the only performance challenge men face. That's why his dual strategy includes attention to blood flow because no amount of testosterone will replace the need for healthy blood flow for successful intimacy.

And this second formula became Primal Max Red.

SUPPORTING THE MECHANICS IS AS IMPORTANT AS SUPPORTING THE HORMONES

While Primal Max Black helped maintain optimal testosterone, Primal Max Red tackles a lesser-known challenge.

Truth is, we ignore the importance of blood flow and circulation for supporting a man's sex life. Because without blood flow, nothing happens.

Luckily, a Nobel prize-winning scientist discovered a means to help support performance, strength, and confidence by supporting vital blood flow, which is essential for a satisfying performance.

Using this landmark Nobel Prize as its basis, Primal Max Red supports healthy blood flow by using a key ingredient to support nitric oxide production. Nitric oxide is the molecule that allows blood vessels to relax and expand, thereby increasing blood flow.

Al Sears MD, who has authored over 500 scientific papers and has appeared on more than 50 media outlets including ABC News, CNN, ESPN, and many more says, "Supporting optimal blood flow is an essential component of maintaining sexual health as men age. Then, once we optimized it and had a great deal of success, we set out to see if we could do even better."

Conventional nitric oxide supplements are limited to smaller doses of key ingredients because everything must fit into small capsules. But Dr. Sears followed the science and introduced a revolutionary new powder version of his Primal Max Red formula.

This new powder formulation enabled him to include bigger doses of the key nutrients, which matched the doses used in published clinical studies. Not only is the formula more effective because it uses proven doses, it also means you get a delicious drink instead of more and more pills.

HEALTHY BLOOD FLOW DELIVERS SATISFYING RESULTS

Primal Max Red is the best way to maintain an active life.

IMMEDIATE GAME CHANGER FOR AMERICAN MEN: Doctors are now recommending Primal Max Red for its ability to support the vital but overlooked need for healthy blood flow during intimacy.

It works by supporting blood flow and the production of nitric oxide.

This critical support is the reason men across the country are enjoying a full and satisfying performance at any age. Because testosterone is not the only factor men need to consider.

Primal Max Red effectively promotes healthy blood flow that men can use to support intimacy in the bedroom. The unique and powerful blend of ingredients in Primal Max Red supports the kind of sexual health and performance men are looking for.

"There was a time when supporting healthy blood flow for men was impossible," Dr. Sears said. "But science and technology have come a long way in recent years. And now, with the creation of nitric oxide-supporting Primal Max Red, men can feel more confident and more in control while they enjoy intimacy at any age."

Now for men across America, it's much easier to support peak performance as they get older.

HOW TO GET PRIMAL MAX RED ALONG WITH COMPLEMENTARY BOTTLES OF PRIMAL MAX BLACK

To secure the new Primal Max Red formula, readers should contact the Primal Max Red Health Hotline at **1-800-906-7428** and use promo code **PFPMAX425** within 48 hours. And to cut down on the cost for customers, it can only be purchased directly from the company.

READERS ALSO GET AN EXTRA BONUS SUPPLY OF PRIMAL MAX BLACK

Every order of Primal Max Red gets a matching supply of Dr. Sears' testosterone formula Primal Max Black for no additional charge.

All orders are backed by a 100% money-back guarantee. If any user is not satisfied, just send back the bottle(s) or any unused product within 90 days from the purchase date, and you'll get all your money back.

CAST-IRON SMASHBURGERS

These tasty burgers cook very quickly, so be sure to have all the ingredients ready.

TOTAL TIME: 20 MINUTES
MAKES: 4 SMASHBURGERS

SPECIAL SAUCE:
- ½ cup mayonnaise
- 1 tablespoon sweet pickle relish
- 1 tablespoon ketchup
- 1 teaspoon mustard
- ½ teaspoon smoked paprika
- ¼ teaspoon Worcestershire sauce

BURGERS:
- Fresh lettuce leaves, sliced red onion and sliced pickles for topping
- 4 hamburger buns, buttered and toasted
- 1 pound 80% lean beef chuck, divided into 8 (2-ounce) balls
- Kosher salt
- Freshly ground black pepper
- 8 slices American or cheddar cheese

1. To make special sauce: Whisk all of the ingredients together in a bowl; set aside.
2. Preheat a large cast-iron pan or griddle over medium-high heat.
3. To prepare burgers: Lay toppings (lettuce, red onion, pickles and special sauce) on bottom half of each bun. The burgers will cook quickly, so it's important to have this ready.
4. Place each ball of beef onto hot pan; smash flat with a spatula, using another utensil to add more pressure to flatten the patties.
5. Season with salt and pepper. Continue cooking until edges are deeply browned and top of the patty turns pale pink in color (about 1 minute).
6. Scrape patties off of the pan, taking care to get all of the browned bits; flip. Place one slice of cheese directly on top of one patty; stack on top of another patty.
7. Transfer stacked patties to hamburger bun; top with other half of toasted bun. Serve immediately.

GREEK-STYLE TURKEY BURGERS WITH TZATZIKI SAUCE

Pair this dish with your favorite burger sides, such as french fries and baked beans.

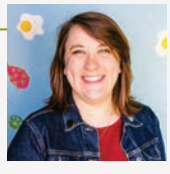
TOTAL TIME: 1 HOUR
MAKES: 4 TURKEY BURGERS

TZATZIKI SAUCE:
- ½ large cucumber
- 1 cup plain Greek yogurt
- 1 tablespoon red wine vinegar
- 1 tablespoon chopped fresh dill
- ½ teaspoon garlic powder
- ¼ teaspoon kosher salt
- ⅛ teaspoon black pepper

BURGERS:
- 1 pound ground turkey
- ½ cup fresh spinach, chopped

BURGERS (cont.):
- ⅓ cup sun-dried tomatoes, chopped
- ¼ cup red onion, chopped
- ¼ cup feta cheese, crumbled
- 2 cloves garlic, minced
- 1 large egg, beaten
- 1 tablespoon olive oil
- 1 teaspoon dried oregano
- ½ teaspoon kosher salt
- ½ teaspoon black pepper
- Fresh lettuce leaves, sliced tomato and red onion for topping
- 4 hamburger buns

1. To make tzatziki sauce: On the side of a box grater, shred cucumber; use a paper towel to press out any excess water. Combine grated cucumber, yogurt, red wine vinegar, fresh dill, garlic, salt and black pepper; mix well. Set aside.
2. In a large bowl, add ground turkey, spinach, tomatoes, red onion and feta. In a small bowl, combine garlic, egg, olive oil, dried oregano, kosher salt and freshly ground black pepper; whisk until well-combined.
2. Pour egg mixture over turkey; mix to combine. Divide mixture into 4 patties; rest in fridge for up to 30 minutes.
3. To prepare burgers: Heat a nonstick pan over medium heat; add burgers in batches if you have to (overcrowding will slow down the cook time on these patties).
4. Cook each burger about 5 minutes on each side.
5. To assemble burgers: Place lettuce leaves, tomato and onion on bottom of bun; top with the burger and tzatziki sauce. Serve with more sauce, if desired. ///



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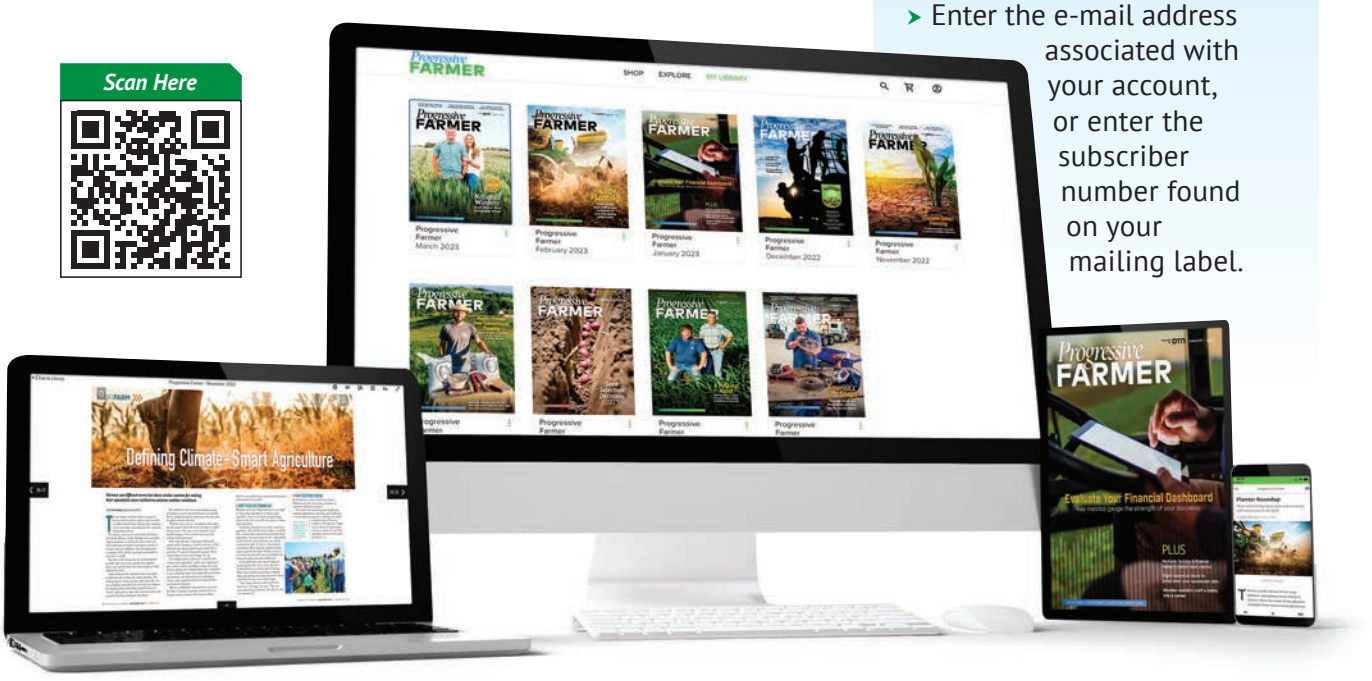

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Parents

GETTY IMAGES

We are the people our parents warned us about.
JIMMY BUFFETT

To maintain a joyful family requires much from both the parents and the children. Each member of the family has to become, in a special way, the servant of the others.
POPE JOHN PAUL II

Children, obey your parents in the Lord: for this is right. Honour thy father and mother; which is the first commandment with promise; That it may be well with thee, and thou mayest live long on the earth.
EPHESIANS 6:1-3 (KJV)

We never know the love of a parent till we become parents ourselves.
HENRY WARD BEECHER

I learned the way a monkey learns—by watching its parents.
KING CHARLES III

My heroes are and were my parents. I can't see having anyone else as my heroes.
MICHAEL JORDAN

You either become like your parents or you become the opposite of your parents. And I like to think that I'm the opposite of my parents.
CHELSEA HANDLER

The first half of our lives are ruined by our parents and the second half by our children.
CLARENCE DARROW

Little League baseball is a very good thing because it keeps the parents off the street.
YOGI BERRA

It is of no consequence of what parents a man is born, as long as he be a man of merit.
HORACE

Train up a child in the way he should go: and when he is old, he will not depart from it.
PROVERBS 22:6 (KJV)

Let children read whatever they want and then talk about it with them. If parents and kids can talk together, we won't have as much censorship because we won't have as much fear.
JUDY BLUME

Your job is not just to do what your parents say, what your teachers say, what society says, but to figure out what your heart calling is and to be led by that.
OPRAH WINFREY

If your parents never had children, chances are you won't either.
DICK CAVETT

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