



Progressive FARMER



Top-Ranked Tractors

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From Our Reader Insights Survey

Progressive
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READER INSIGHTS

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**COVID-19 EMPHASIZES NEED FOR
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JULY 2020

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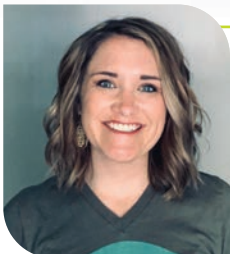
“We like to learn. We figure the moment I stop learning, we cease to exist. There are a lot of ‘take homes’ that we bring back with us and implement. There’s also a lot of people there that we’ve gotten to know for years, too.”

Jeff and Roxi Thompson, farmers



“2019 was my second year attending DTN Ag Summit. I am becoming a farmer myself, so I wanted to expand my network. The past two years I have been able to connect with some phenomenal, innovative farmers at this event.”

Justin Upmeyer, farmer



“Attending Ag Summit gave me in-depth knowledge on issues my clients are facing, which helps me better serve them.”

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Gregg Hillyer
Editor In Chief

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Farmers take a lot of pride in their

equipment. After all, the iron in your machine shed represents a significant investment.

But, what do farmers really think about their equipment lineup? Are they truly satisfied with its performance and reliability? Does it meet their expectations? We wanted to know the answers to these questions and others. That's why we launched the *Progressive Farmer* Reader Insights program. It's the first survey of its kind that asks farmers and ranchers about their experiences and satisfaction with farm equipment.

Senior Editor Dan Miller and Managing Editor Chris Hill head up our effort in collaboration with SOCAL Approach Marketing and Consulting Group, a respected expert in the marketing research industry.

FOCUS ON TRACTORS

Tractors were the logical choice for the first survey since they are the workhorses on the farm. You spend countless hours on a tractor seat every year, and tractors help drive your efforts to enhance efficiencies and timeliness when undertaking myriad field operations.

As we worked with SOCAL to develop the surveys, we also turned to farmers, equipment manufacturers and others for advice and to help fact-check questions. Their input was invaluable but no less valuable than the information supplied by the farmers and ranchers who completed and returned the survey, either by mail or electronically.

Initial survey results on tractors were featured in the June issue (see "Rate Your Big Iron," page 20). On page 24 of this issue, you'll learn which tractor brands came out on top in various categories as determined from nearly 2,000 owners who supplied detailed information on about 7,100 tractors. You'll see some familiar names listed across three areas: overall ownership experience, owner loyalty and fewest reported problems overall.

FARMER TO FARMER

Farmers sharing their insights on farm machinery with other farmers is the true value of the *Progressive Farmer* Reader



Insights program. It offers the ideal platform for you to express your opinions on the equipment you own and use. In addition, farmers' responses will provide equipment manufacturers with information they can use in future developments of their products.

We are already well underway with the next phase of the program. Surveys on planters and combines are already in the field to select readers of *Progressive Farmer*. If you receive a survey, I encourage you to complete and return it. Results will be shared in upcoming issues of the magazine and on dtnpf.com. Look for other types of farm equipment to be highlighted in 2021.

Finally, all the winners will be acknowledged during our annual DTN Ag Summit, Dec. 7 through 9 in Chicago. ///

EDITOR IN CHIEF

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Forgiveness of Debt



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**.

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As I'm writing this article, we are still waiting for guidance on PPP (Paycheck Protection Program) loan forgiveness. Based on what is being discussed in Congress, there will be some big changes. Instead of writing something that will be out of date in a few weeks, I thought I'd write about a topic I've been seeing lately: debt forgiveness.

If debt is forgiven or discharged, the amount of debt you no longer have to pay is considered canceled.

In context of property, cancellation of debt occurs when the lender forecloses/repossesses the property or when the farmer abandons or transfers the property to the lender. In addition, cancellation of debt may occur when there is a modification to the mortgage.

DEBT INCOME

If debt is canceled, you will have cancellation of debt income. In general, the amount of debt that is deemed canceled is treated as ordinary income. If the debt was secured by property, and the lender takes back the property, you are deemed to have sold the property back to the lender.

The tax treatment depends on the type of debt used to secure the property. If the property was subject to recourse debt, the amount realized is the fair market value of the property, and the ordinary income component from cancellation of debt is the amount of debt forgiven in excess of the fair market value of the property. For nonrecourse, the amount realized is the entire nonrecourse debt plus the amount of cash and/or fair market value of property received.

There are certain exclusions that result in cancellation of debt not treated as gross income:

- Title 11 bankruptcy
 - insolvency
 - cancellation of qualified farm debt
 - cancellation of qualified real property business debt
 - cancellation of qualified principal residency debt that was discharged by arrangement entered into prior to Jan. 1, 2021.
- If one of these exclusions applies, you

still must reduce certain tax attributes by the amount excluded.

I want to quickly touch upon the qualified farm debt exclusion. The exclusion applies to debt canceled related to farming when the farmer derived 50% or more of gross receipts from the trade or business of farming for a period of three years prior to the cancellation of debt. The debt has to be canceled by a "qualified" person. A qualified person can't be a related party, someone from which you purchased the property or the person who received a fee with respect to the investment in the property.

FORGIVENESS VARIABLES

Forgiveness of debt is very complex and has several variables. It may impact a variety of business decisions such as type of debt, changes to loans and even the type of bankruptcy you file. It also impacts certain tax attributes that may come as a surprise later on. When an entity receives cancellation of debt income, depending on the type of entity, the impact may be on the entity or the owner level. And, if on an owner level, each owner may have a different tax consequence.

If you are expecting to default on debt and possibly receive cancellation of debt, please talk to your accountant to discuss how it may impact you. ///

TOOLS FROM THE PAST

QUESTION:

More than decorative, this star had an important task. What was it?



ANSWER:

Many early buildings were brick and, over time, the walls had a tendency to bulge. One or more of these stars attached to a wall's exterior. A rod was inserted and bolted through the star and anchored to keep the wall in place.

INTRODUCING A NEW PODCAST



Sarah Mock

DTN/*Progressive Farmer* has launched a new weekly podcast. Field Posts is your connection to what's happening in agriculture. Join host Sarah Mock as she interviews ag industry leaders as well as DTN/*Progressive Farmer* editors on a wide range of topics, from farm policy and crop production to finances, technology and more. You'll have a front-row seat to the latest news and information. Visit fieldposts.buzzsprout.com.

FARMERS ON TWITTER

Very first crop on my first farm purchased. She's not flashiest but I get to call it mine. #plant2020 @sjbutz



My mom is seriously goals. I hope I'm half as cool as she is in 25 years. #farmwife #womeninag #womeninagriculture #farmmom @ConservisKacee



BLOGS & COLUMNS



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July 10, 2020 WASDE Report: Todd Hultman, DTN lead analyst, breaks down the world agricultural supply and demand estimates and what it may mean for commodity prices.

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Tropical Storm Season Looks Active



Bryce Anderson
DTN Senior Ag Meteorologist

► Read Bryce's weather blog at ABOUT.DTNPF.COM/WEATHER.

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The 2020 tropical weather season got going early. Tropical Storm Arthur fired up off the South Carolina coast May 16 through 19, almost two full weeks ahead of the typical beginning of tropical storm season June 1. A year ago, the 2019 season was a busy one, with 18 named storms. That year tied with 1969 as the fourth-most active tropical storm season since hurricane recordkeeping began in 1851.

Hurricane season projections and outlooks always garner close attention. General societal impact claims the front burner of concern; however, agriculture has an important place at the table, as well. And, it doesn't matter how busy or quiet the total season is; a single storm can be devastating.

EXTRA BOOST

This year, the hurricane and tropical storm action may get an extra boost from the Pacific Ocean temperature pattern. The Pacific Ocean equatorial temperatures are forecast to steadily cool down to below-normal levels by late summer—in August and September, with a La Niña event forming. And, the Pacific Ocean temperature pattern can and does affect the tropical season across the world in the Atlantic Ocean and the Gulf of Mexico.

Here's why: The cool-water trend in the Pacific Ocean equatorial region leads to the atmosphere in the eastern Pacific Ocean

featuring dominant high pressure. That high pressure, in turn, tends to suppress the formation of any subtropical west-to-east jet stream flow out of the eastern Pacific Ocean in the vicinity of the southern U.S. and Mexico. That "quieter" atmosphere means tropical weather systems that spin up in the Atlantic Ocean and the Gulf of Mexico

have a nonthreatening environment to grow and intensify.

COOLER TREND

Weather forecast agencies internationally are in broad agreement that the equatorial Pacific Ocean will indeed trend cooler. The threshold for La Niña is a sustained surface temperature that is $\frac{1}{2}^{\circ}\text{C}$ below normal. That level is expected to be reached at some point in the last half of summer.

The pace of that evolution looms as a key detail in the influence on the Atlantic and Gulf tropical season. If the cooling intensifies, it raises the potential for La Niña thresholds to be met earlier. Indeed, some model iterations

going back into the early spring were calling for that cooling to get going faster, taking the equator region temperatures to the La Niña threshold in late July to early August rather than late August to early September. That is an important four-week difference and will be a closely tracked detail throughout the balance of the summer.

The hurricane and tropical storm season runs through Nov. 30. ///



GETTY IMAGES

Bankers Wary Of Pandemic Pressure

More than 60% of agricultural bankers participating in the Kansas City Federal Reserve's quarterly credit survey say they're concerned about steep pandemic-related declines in farm income and loan repayments.

While some borrowers are facing liquidity issues, the report says the number of farmers who refinanced to meet short-term needs is comparable to previous years, and the number of loan denials is at the lowest level since 2016.

"Farmer finances were stable for the 2019 production year but would have not maintained that position without the MFP program," a northeast Kansas banker noted in the Fed's anonymous comments.

Across the 10-state Federal Reserve district, 90% of bankers say the Market Facilitation Program payments provided moderate support to farm income and repayment, although it was a more significant factor in Kansas, Missouri and Nebraska.

"Providing some support to farm finances,

interest rates on agricultural loans declined, and farm real estate values remained relatively stable," say the report's authors, Omaha Branch Executive Nathan Kauffman and assistant economist Ty Kreitman.

Interest rates on all types of farm loans declined alongside the benchmark rate. That's particularly benefiting farm real estate, where the fixed rate on loans declined to the lowest level on record in the first quarter.

At the same time, the value of both nonirrigated cropland and rangeland increased slightly for the second consecutive period, and nearly 70% of the bankers the Fed surveyed say they expect land values to remain unchanged.

"Weaknesses in some agricultural commodity markets continued to intensify in recent weeks and further weighed on already subdued farm revenues. However, government payments appear likely to provide notable relief to segments of the farm sector again in 2020," Kauffman and Kreitman write. ///



Katie Dehlinger
DTN Farm
Business Editor

► Read Katie's business blog at **ABOUT.DTNPF.COM/BUSINESS.**

► You may email Katie at **katie.dehlinger@dn.com**, or visit **@KatieD_DTN** on Twitter.

Dicamba Legal Battles

The Xtend trait system received a midseason blow when the 9th Circuit Court of Appeals vacated the labels for the complementary herbicides XtendiMax, FeXapan and Engenia on June 3. The judges concluded that EPA broke federal law when it issued conditional registrations for the three dicamba herbicides in 2018, because the agency had ample evidence that they posed a major risk of "adverse unreasonable effects" to the environment at the time.

Much is yet to come as companies seek to register these herbicide labels again in 2020. In the verdict, the judges deemed the EPA made the following errors in their 2018 decision:

► The agency didn't correctly assess how many acres dicamba would be used on in 2018 (nearly 60 million acres, as it turned out), even though that information was available.

► In their assessment, EPA stated that dicamba injury complaints from state pesticide regulatory agencies may be either underreported or overreported when there was ample evidence

of the former and no evidence for the latter.

► EPA never even attempted to measure the off-target dicamba injury that had occurred on the landscape since 2017, nor would the agency formally acknowledge that widespread injury had occurred.

► The agency ignored the likelihood that the incredibly complex labels they were issuing would be difficult to follow and would result in noncompliance.

► EPA ignored the "anticompetitive effect" of the registration, given evidence that many growers felt compelled to switch to dicamba-tolerant crops just to protect themselves from off-target injury.

► Finally, the EPA ignored growing evidence of a painful social cost of in-season dicamba use to rural agricultural communities, such as strained neighbor relationships, uncompensated property damage and even one murder in 2016 after an argument over the technology. ///

-Emily Unglesbee

COVID-19 Concerns Ease But Aren't Gone



Todd Hultman
DTN Lead Analyst

► Read Todd's blog at **ABOUT.DTNPF.COM/MARKETS**.

► You may email Todd at **todd.hultman@dtn.com**, or call 402-255-8489.

The development of the ethanol industry was a wonderful boon for corn demand when the mandates were laid out in 2005 and 2007. Coming at a time when oil supplies were becoming nervously short and offering less dependence on the Middle East, ethanol was a win/win for the country.

For corn producers, ethanol provided a third leg of demand, another solid market choice in addition to feed demand and exports that would help prevent the kind of giant surpluses seen in the mid-1980s. Or, so we thought.

TRANSPORTATION PRESSURE

I am pretty sure enduring a global pandemic in 2020 was not at the top of any year-end prediction lists in 2019. It certainly wasn't on the minds of corn producers who had just survived the worst planting conditions in modern history and, for some, tough harvest conditions, as well.

COVID-19 spread around the world with little warning, and the only way we could try to slow it down was by staying away from each other. For most of us, that meant no travel and no large gatherings. For too many, it meant no job to go to.

As people quit driving, ethanol production was cut in half in less than two months, and Saudi Arabia flooded markets with excess oil. Corn exports were already in trouble before

coronavirus, but transportation problems and concerns about dock workers staying on the job didn't help.

LIVESTOCK PRESSURE

Not even feed demand was safe. Early on, packers pulled back livestock bids out of concern for a slowing economy. By Easter, news broke that workers at meat-processing plants were testing positive for COVID-19, and the pressure was on to close plants.

For producers of cattle, hogs and poultry, it was quickly obvious growing inventory couldn't be shut off easily. Cattle would be kept in pasture, hogs grew heavier, and eventually, hogs and poultry had to be euthanized, a producer's nightmare and option of last resort.

According to **worldometers.info**, daily U.S. deaths from coronavirus peaked on April 21 and have been slowly coming down since. Stay-at-home restrictions are easing, and people are gradually getting back on the road. Hog slaughter levels dropped to 280,000 head on May 1, down 180,000 from the previous year. By the end of May, slaughter was back to 414,000, significant but not a total improvement.

Recovering the last 10% of last year's slaughter pace may prove elusive. Vaccines for COVID-19 are being worked on but may not be ready this fall, when the risk of infection is expected to increase again.

TIME TO HEAL

As far as corn demand goes, we should be able to say the worst is behind us, but that doesn't mean all is well. Summer weather will dictate just how big the new-crop surplus gets, and every facet of corn demand will be needed.

One year after corn suffered the worst planting conditions in our lifetimes, corn demand has just taken arguably its worst hit since the Great Depression, and we can't yet say the threat of coronavirus is under control. Both the economy and corn demand will take time to heal. ///



GETTY IMAGES

The Real Reel

BY Jennifer Campbell

Sharing the “real reel” of life is hard and cathartic all at the same time. What most people leave on the social media cutting-room floor has quickly become my “brand.”

I can vividly remember the very first time I wrote exactly what was happening in my life for all the world to judge:

“I’m sitting on my dirty kitchen floor crying, wearing a way too big Carhartt coat, rubber boots and my pajamas. I’m drinking flat Mt Dew out of what I can only assume is a clean measuring cup. I’m tired.”

I was truly a pitiful sight and I knew it. But, what I really needed, as I sat there reading Facebook posts about happy families and perfect moms who make hot breakfasts for the family before school, was to unveil my secret.

I was worn out; my house was a disaster, and literally every glass in the house

was dirty. My floors were sticky and, honestly, covered not just in dirt but a fair share of livestock organic matter. And, although I had gotten a husband out the door, three kids up and on their way to school and the livestock fed, I still felt defeated. I also felt societal pressure to hide my mess, and that is exhausting.

But, reality is, sometimes trying is all we have to give; and that, my friends, is truly enough. After I posted my confession, I picked myself up and dusted myself off. I did a load of dishes. I showered. Then, I headed to the field to run the grain cart for 10 hours before I made supper for us to eat as a family that night.

Comparison is the thief of joy. Turns out, not being afraid to publicly admit that my life is messy and I get overwhelmed at times helps others realize they aren’t alone. That’s good, because life is too short not to be real.



Jennifer (Jent) Campbell can be found having a moment on her Indiana farm, where she writes a blog called Farm Wife Feeds (farmwifefeeds.com). Follow her on Twitter [@plowwife](https://twitter.com/plowwife) and on the podcast [@girlstalkag](https://www.girlstalkag.com).

Come Sit on My Porch

BY Meredith Bernard

They say home is where your heart is, and for me, my heart is at home. For the handful of “happy places” I claim, the majority are right here on our farm. Whether it’s in my tractor cab raking hay or sitting in a pasture listening to cows munch on grass, my heart is full.

The other place that both stirs my soul and fills my cup is where I’m tapping out these words to the tune of songbirds, the feel of a warm summer’s breeze, the refreshment of a Mason jar of sweet iced tea and the sway of a log glider with a dog curled up next to me. Welcome to my porch.

This porch is where I greet the day with a cup of strong coffee, watching the sunrise red through the trees. It’s where we gather as a family around a big, round table and eat meals that just taste better out here. It’s where I feed hummingbirds, and we sit back, laugh and duck for cover as they go to war for the sweet nectar. It’s where our kids swing, play, practice guitar and make memories they’ll take with them long after they leave this nest for their own.

I’m fortunate to have a big porch, but I didn’t for a long time, and it’s always been a special place. It’s not the size that matters, it’s taking the time to enjoy what a place like a porch (or other “happy place” of any size) offers. A chance to slow down. A place to gather with friends and family. A sanctuary to be alone with nature or God. If ever we’ve needed as a people to find contentment at home, it’s now. This is the time. And, the answer could be as close as a step outside your own front door.



MEREDITH BERNARD



Blogger Meredith Bernard writes, takes photographs and ponders life and agriculture from the porch of her North Carolina family farm. Follow her on Twitter [@thisfarmwife](https://twitter.com/thisfarmwife), and visit her website at thisfarmwife.com.

Manage a U-Turn

Intensive grazing plan saves money and boosts productivity in just under four years.

For Billy Helton, the aha moment came as he looked at a small, tall, unused stand of bermudagrass behind his hay barn in the summer of 2017. “I had cows on one side of the fence and the grass on the other, and the difference was unbelievable,” the Georgia beef producer recalls. “It was the same soil and the same grass crop. With no cows, the grass was knee-deep and was home to roly-polies (pill bugs) and spiders, and the soil was wet and cool,” he explains.

“Right across the fence, the ground was dry, hard-packed and looked like the Arizona desert. I thought, ‘There’s got to be something to this ...’ because everything is the same except how the land is being managed.”

The grass-patch incident convinced Helton he had to change his management or get out of the business, because what he’d been doing for years was taking up a lot of his time and effort, and wasn’t working.

Helton operates Wild Bill’s Cattle Co., near Warthen in Washington County, in east-central Georgia. The thriving business is made up of a 150-head Brangus cow/calf operation along with a commercial grazing component. The ranch is based on 445 acres evenly divided between Tifton 85 bermudagrass pastures and summer and winter no-till cover crops, with about 100 irrigated acres.

EXPENSIVE BATTLE

“Like many others in our area, we were supplementing our grass pastures with summer millet and winter ryegrass in the traditional way,” Helton explains. “We were harrowing, chiseling and harrowing again. The moisture had to be just right to plant, and sometimes we’d have to run the pivots,” he says. The soil was always either too hard or too slick. He constantly fought clods in the fields. It was an expensive battle.

“I had to have a big tractor and a plow to farm like that. By fall and winter, everything would be eaten up

as we waited on the ryegrass to come on, and the cows would eat that before it ever made a stand. I was hauling hay every day,” Helton says.

The cows always had more than they needed in the summer, but the rest of the year, the pastures looked like carpet,” he explains. “I could never sell enough calves to pay the bills. I just couldn’t make it work.”

Meanwhile, Helton had been doing some homework with videos from Greg and Jan Judy’s Green Pasture Farm, in Missouri. The couple practices management-intensive grazing (MIG) on 16 farms northwest of Columbia and produces educational videos about their practices. “Watching what they had done was opening my eyes,” Helton says.

SIMPLE BEGINNING

Helton’s first step into the MIG practices he uses today included a single electric Polywire run across a 15-acre paddock to segment about 5 acres. Helton let his cows take half the grass and then moved the string. Even though there was still grass where they were grazing, they’d immediately move to the fresh grass.

“I wasn’t using a back string, so after five to six days, the cattle would migrate back to the original paddock as it tillered new growth,” he says. Helton followed that practice until the end of the first summer.

“I had way more grass than I’d ever had. I was able to start stockpiling forage into the fall,” he says. “I realized instead of paying someone to cut the excess and spend time hauling it in and out of the barn through the winter, I could let the cows graze the dormant forage. I cut my tractor time haying, reduced fuel use and allowed me more time into the winter before I had to start putting out hay.”

Unrolling hay strategically across his pastures also helped eliminate most mud problems during wet weather and allowed Helton to better track its consumption.

“I kept up those practices and started calculating acres in my fields and pastures, and worked to even



In three years, Billy Helton’s organic levels in cultivated soils have doubled. Billy and son Will take a close-up look.

out the size of my paddocks,” he explains. That grouped the cows in a way to better use the standing grass—to use the herd as the harvesting “tool” instead of machinery. “Based on hay optimization studies, I’m now running the cows on a 21- to 25-day cycle through the pastures and letting them do what a hay baler does,” he says.

The cows replaced the baler. Helton was able to cut time, fuel and machinery costs.



PADDOCKS DO THE WORK

Today, Helton’s operation features 35 permanent paddocks, 16 of which can be halved or quartered, depending upon growing and grazing conditions.

His cattle are never more than 500 feet from a watering point. He worked with Natural Resources Conservation Service to install a set of permanent and temporary water troughs fed by underground PVC piping. “I can have water in every paddock, close to the cattle, so they don’t all crowd around a water tank in a bunch,” Helton says. With ample water close by, they tend to drink in groups of five to six and spend less time there tearing up the soil.

Because of his improved use of available forage, Helton was able to add a commercial grazing venture into his income stream in addition to his own cow/calf operation. All grazing follows MIG practices for maximum gain and positive soil benefits.

About twice a year, Helton can take in 160 stockers for about 90 days. “I contract grazing on gain with a local producer who is marketing grass-fed, all-natural beef,” he says. “I still have my own 150 cows, and I’m using them to slowly expand my grass pastures by turning them out on newly cleared land.” Helton has converted 50 acres this way, and he is working on another 40 acres. “It will allow me to take in bigger custom-grazing contracts or get enough cows of my own to be able to sell uniform calf lots.”

Currently, Helton sells 45 to 60 weaned, vaccinated, preconditioned, bunk/wire-broke calves raised under Beef Quality Assurance standards each year.

Half of Helton’s operation remains in no-till management and is tended with a 10-foot Sunflower NT drill set on 7.5-inch rows. “I usually use a five- to seven-way blend for summer forage at about 60 pounds per acre,” he explains. That mix would include sunn hemp, sorghum-sudangrass, BMR millet, sunflower and buckwheat. The mix produces tall and abundant forage.

“The cattle eat it and trample the stubble back into the ground, which is helping build my soil,” he says. In three years, his soil organic matter levels have risen from 1 to 1.5% to 3% on the cultivated land. For winter grazing, Helton has adopted a general mix of 50 pounds

of black oats, 20 pounds of annual ryegrass, 4 pounds of vetch, 3 pounds of kale and 2 pounds of blue lupine.

“I can get this mix and brassicas planted in September for early grazing, and after the worst of winter, it carries me on into the spring. The last two years, we’ve gotten through Thanksgiving on stockpiled forage before having to start putting out hay,” he explains.

CHANGES BEGET CHANGES

Helton says the improvement in forage utilization points out the need to better organize his calving schedule.

“Grazing stockpiled forage in the winter provides the least nutrients of the year, and that’s when the cows need to be dry. I calve December to February, so the pairs are grazing by late February or March on the tail end of my winter mix,” he explains. “I’ll have my grass pastures overseeded with ryegrass and clover, so I can start moving cows onto summer pasture as soon as possible.

“I’ve held back fall pairs and have sold off those who calved late this year, so next calving season will be three months or less.”

Helton will need several seasons to know for sure if his management turnaround is going to keep him in the beef business, but he points to a number of benefits that show him “light” at the end of the tunnel.

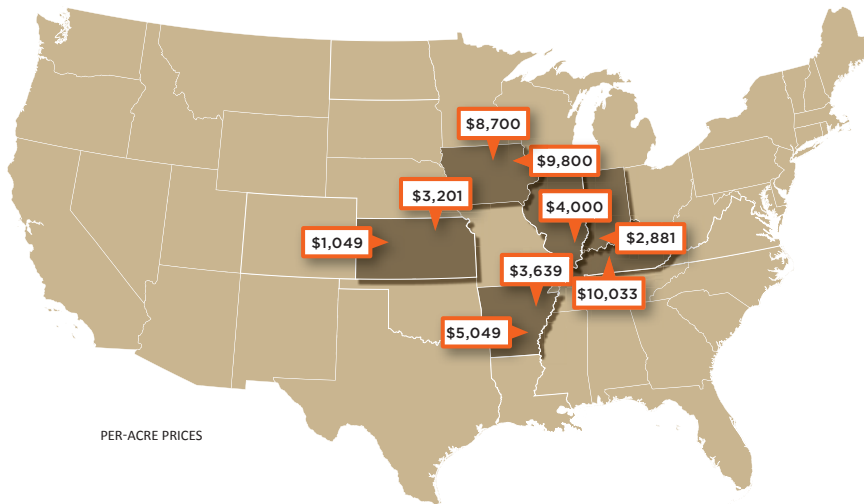
“Our changes have saved me time and fuel, equipment costs and boosted my usable resources significantly,” he says.

“My cattle are in better body condition throughout the year, I use less fertilizer on the farm, I’ve had an infusion of cash through the grazing contracts—which paid for my own herds’ annual grazing—and I still have leftover forage.” ///



Helton has 35 permanent paddocks, and 16 of them can be halved or quartered.

Recent Farmland Sales



ARKANSAS, Cross County. Farmland totaling 180 acres sold for \$655,000, or \$3,639 per acre. This property contained 151 tillable acres. **Contact:** Cole Fields, BrokerSouth Ag; cole.fields@gmail.com; 318-512-5325
www.brokersouthag.com

Jefferson County. Known locally as Sanders Farm, an operation totaling 1,020 acres sold for \$5.15 million, or \$5,049 per acre. The property included 954.4 cropland acres, all irrigated using eight wells and one diesel turbine relief that pumps more than 5,000 gallons per minute. With the exception of 98 acres, all the cropland had been leveled. Grain storage in the form of three 40,000-bushel bins are on-site. The farm had a strong rice base and is known for good waterfowl hunting. **Contact:** Gardner Lile, Lile Real Estate Inc.; gardner@lilerealestate.com; 501-374-3411
www.lilerealestate.com

ILLINOIS, White County. Three contiguous tracts totaling 94 acres sold for \$376,000, or \$4,000 per acre. The land, south of Carmi, consisted of 69 acres of gently rolling cropland. It sold subject to a CRP contract. The balance of

the property was in wooded land. **Contact:** Jason Blue, Kurtz Auction and Realty; jason@kurtzauction.com; 812-550-4114
www.kurtzauction.com

INDIANA, Spencer County. A 382-acre farm sold in one tract prior to a scheduled action for \$1.1 million, or \$2,881 per acre. The property consisted of 206 acres of mixed cropland, from creek bottom to hill-type land. The balance was in wooded land and included some marketable timber. Improvements included a farmhouse, outbuildings and a 1-acre lake. Area farmers were buyers. **Contact:** Jason Blue, Kurtz Auction and Realty; jason@kurtzauction.com; 812-550-4114
www.kurtzauction.com

IOWA, Clayton County. Property totaling 34 acres with no tiling and a CSR2 of about 75 sold at public auction for \$9,800 per acre, or a total of \$333,200. **Contact:** Marvin Waterhouse, Waterhouse Realty and Auctioneers; marvin@manchesterauction.com; 563-927-3660
www.manchesterauction.com

Wright County. Property totaling 115 acres, 113.5 tillable, sold at auction

for \$8,700 per acre, or a total price of \$1 million. The land had a CSR2 of 85.1 and sold to an investor buyer. It leased back to the previous operator. **Contact:** John B. Kirkpatrick, MWA Auctions and Real Estate; john@mwallc.com; 515-532-2878

www.murraywiseassociates.com


KANSAS, Logan County. Two tracts of farmland totaling 320 acres sold at auction for \$335,750. Average price per acre ranged from \$950 to \$1,225, with an average across the whole property of \$1,049. The farm included wheat and corn bases. **Contact:** Steve Hazlett, Farm and Ranch Realty Inc.; info@frrmail.com; 800-247-7863
www.farmandranchrealty.com

Washington and Marshall counties. Three tracts of farmland totaling 656 acres sold at auction for \$2.1 million. Average per-acre price across the farm was \$3,201. The farm included cropland and pasture. It was cross-fenced, with a history of wheat, corn and soybean production. **Contact:** Jeff Dankenbring, jeff@midwestlandandhome, or Mark Uhlik, mark@midwestlandandhome; Midwest Land and Home, 785-325-2740
www.midwestlandandhome.com

KENTUCKY, Daviess County. A 33-acre farm sold in three tracts for \$331,100, or an average of \$10,033 per acre. The property included a home, 2-acre lake and building site. The land was gently rolling. **Contact:** Joseph Mills, Kurtz Auction and Realty; jmills@kurtzauction.com; 270-926-8553
www.kurtzauction.com

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

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TIME TO MAKE HAY

This Kansas farmer bales up a niche of his own.



Kyle Krier has heard enough hay-related puns and idioms to last a lifetime, but the one he tries never to ignore is, “Make hay while the sun shines.”

“Timing is everything when it comes to quality hay,” says Krier, Claflin, Kansas.

The proverb also holds a broader meaning for the young farmer. Hay is the crop that has allowed him to carve his own farming niche. After graduating from Kansas State University in 2006, Krier spent several years selling crop insurance before returning to the home farm full time in 2014.

“I wanted a cropping enterprise that I could put my own stamp on and something that would diversify the farm beyond wheat, soybean, corn and milo,” he says. “My experience in sales meant I wasn’t overly sensitive to hearing the word no, and that’s important in the custom hay business.”

His father, Kirby, grew up putting up small square bales and had moved to selling large rounds, mostly to the feedlots for grinding. “Dad had done a good job of maintaining and building that market, and we still do some round bales. But, by adding large square bales, I’ve been able to open up value-added markets beyond our local area. They offer ease in transportation.”

LABOR PAINS

Still, dad wasn’t quite as enthusiastic as son about stacking up more hay work. Haymaking done right is demanding. The farm averages four cuttings per year and may squeeze in a fifth when blessed with rainfall.

The younger Krier also helps with row crops and has his own crop insurance agency, and there is also the family’s small oil-production company. Then, there’s wife, Melanie, and their two little boys who like to be tucked in and read to at night.

The farm has traditionally eased summer labor pains by using a program that allows international college



students to work in a study-based exchange. “We have really enjoyed those experiences, but the pandemic required us to look locally for part-time help this summer,” he says.

What started as 80 acres of alfalfa has grown to slightly more than 1,000 acres. Popularity for other types of baled forages such as teff grass, millet and sorghum-sudangrass push his total forage acreage to just north of 1,500 acres. With nine main customers, shipping ranges from local deliveries (30 to 50 miles) up to 1,200 miles.

GRASS IS GREENER

It isn’t unusual for other farmers to peek over the fence and think the hay business looks promising, especially when other commodity prices decline.

“It may seem like cart before horse, but if you are serious about the hay business, it is best to have a market nearly locked up before you ever purchase any hay equipment,” Krier recommends. “I’ve seen too many new growers get left holding hay, especially if they don’t have cattle to push it through.”

University of Kentucky forage specialist emeritus Garry Lacefield spent his career teaching farmers how to grow forages and agrees marketing hay, not merely selling it, is critical for the hay businessperson.

Environmental conditions such as humidity and rainfall influence the type of forage that grows well in a region and the bale packaging system, he notes.

“The density of large square bales requires more drying than small square bales or even large rounds. Customers also need to be able to handle those bales—they may work for dairies but not the horse market,” he observes. ▶

Alfalfa cuts a big swath in Kyle Krier’s farming operation. Large square bales measure 3 x 4 and can weigh 1,350 to 1,400 pounds.





Knowing the cost of every operation and performing tasks in a timely fashion helps Kyle Krier make hay pay. Large square bales of alfalfa can range from \$70 to \$160 per bale, depending on quality.



Integrity is another key ingredient in the hay business. “That means having a market for low-quality hay, because there will always be some that gets a bit too mature, caught a rain or has a few more weeds than is desired,” he says.

PRICE POINTS

The 2019 market choked down with medium- to lower-quality hay, Krier reports. “The market pretty much sets the price for sorghum-sudan, millet and grinder alfalfa. Those values decreased by 40% last year due to oversupply,” he estimates.

“Hay is one of the best supply and demand markets out there. Supply goes down, price goes up. Supply goes up, price goes down,” he says. “Still, the upper-end qualities aren’t as sensitive and held margin well last year. I like that it allows me to show management abilities.”

This year, several late-spring freeze events, armyworms, aphids and alfalfa weevil all showed up before the first cutting.

Krier tests every bale for attributes. Sometimes, customers request samples to do their own comparative

analysis of the many components that represent quality and make up relative feed value (RFV).

“However, I may have some really high-quality testing hay on the RFV side, but palatability is terrible. That’s not going to work for a buyer wanting high-percentage consumption,” he says.

Krier ranks good agronomic practices and inputs (suitable varieties, fertility, insect and weed control) as the first factor in producing a quality crop.

“Timeliness is a close second and takes the cake from there on out,” he adds. The grower is constantly seeking a balance between achieving top yield and digestibility by cutting before the crop gets too mature.

Type and size of machinery factor in, too, he notes. “Used hay equipment is fairly affordable and can also attract others to the business. But, a worn-out swather is probably going to have a junky conditioner,” Krier says.

Conditioning is critical to getting stem and leaf to dry down together. Leaf retention is all-important to maintain nutritional quality. The longer forage sits after cutting, the bigger the risk to quality. Bale too soon, and mold threatens due to high moisture content.

Ultimately, making hay is a choreographed dance with Mother Nature constantly threatening to cut in at the most inconvenient moments. “She has little respect for the hay business,” Krier says.

“When I have hay on the ground, and the forecast is rain, there’s no sedative that can make me sleep.” ///

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Autonomous Planting Revs Up

Robotic firm makes advances with multiple machines operating remotely in the field.

Three tractors and planters seeded more than 500 acres of soybeans at a northwest Iowa farm with no one at the wheel.

Sabanto, a Chicago-based robotic farming company, helped Bellcock Farms plant using remote-controlled utility tractors, each pulling five-row planters. Several other farmers in Illinois and Iowa have also hired the company to provide robotic planting help this year.

Autonomous farming has moved from the proof-of-concept stage to commercial reality for the company.

“This is the real deal ... it will change agriculture,” says Sabanto co-owner Craig Rupp. “We’ve gone from one tractor and planter to multiple machines operating remotely at the same time.”

Sabanto got its feet wet last year (June 2019 *Progressive Farmer*) planting several thousand acres of soybeans throughout the Midwest with one remote-controlled tractor and planter. Rupp and co-owner, Kyler Laird, tested equipment and worked on software, networking, logistics and other issues to scale up autonomous operations in 2020.

The company’s vision to solve agriculture’s labor shortage with autonomous technology is being realized, Rupp explains.

“This is still a work in progress; it’s hard to do,” he adds. “However, I do believe this will be the solution to the lack of labor in [row-crop] agriculture.”

Justin Bellcock says his family is fortunate they currently have enough help for their row-crop, turkey and crop-input businesses. However, he knows that may not always be the case.

That’s why the Bellcocks hired Sabanto to plant a portion of their soybean acres this spring. They also were a Sabanto test site in 2019.

“Labor shortages in farming will only get worse,” Bellcock says. “There may be a day when we don’t have the help, so I want to see this technology succeed.

“Maybe it’s not financially feasible or the labor isn’t available to have a second or third planter to get crops in the ground quickly,” he continues. “[Sabanto] is another avenue.”

Rupp claims the company’s custom-farming rates are competitive with state averages. The 2020 Iowa Farm Custom Rate Survey pegs average planting rates at \$20.40 to \$23.40 per acre or more depending on equipment and technology.

SMALL BUT MIGHTY

Bellcock was impressed last year with Sabanto’s remote-operated 235-hp JCB Fastrac and 18-row Harvest International planter. The unit was capable of planting about 500 acres in 24 hours of continuous operation.

By today’s standards, the three 60-hp Kubota M5660SU tractors with five-row Harvest International planters traversing Bellcock’s fields weren’t an impressive display of power and size. But, watching the driverless units work together and the technology making it happen certainly got Bellcock’s attention. “This is the future of agriculture,” he claims.

The three small units can plant almost the same number of acres during a 24-hour period as the bigger tractor and planter used last year. Rupp chose small implements this year because they’re light, cost-effective, relatively simple to retrofit and easy to move.

“One big advantage to smaller equipment is less compaction,” Rupp says of the 7,000-pound units. “Logistically, we can move them from Point A to Point B quickly.”

If the company wants to use larger equipment again in the future, Rupp says the technology allows that to happen. “We decided to start small to perfect controlling multiple units.”

The company has come a long way since last spring, when it started planting autonomously. Most notably, Rupp and Laird hired six full-time robotics engineers and equipment specialists.

“These are some of the most talented people you will find in this field,” Rupp boasts. “They are capable, industrious and disciplined. After every field is planted, they evaluate what happened, what should have happened and what accounted for the differences for continual improvement.”

A Kubota tractor autonomously operated by Sabanto plants soybeans while another goes to the seed tender.





Sabanto co-owner Craig Rupp helps solve ag's labor shortage with autonomous equipment.

Roboticians—people who build, program and experiment with robots—in the field and remotely in Chicago monitor and operate the equipment. Even though most of the team is on-site in a trailer filled with technology this year, the goal is to have an off-site operator and one person on-site to deploy equipment, fuel tractors and refill planters with seed.

“Getting multiple units to run in a single field is a whole different ballgame from last year,” Rupp admits. “Running multiple units in multiple fields (in multiple states) is another league, which is the ultimate goal.”

Sabanto is the only company at this time using autonomous equipment to custom-farm for clients, explain Rupp and Matt Darr, Iowa State University professor of agricultural and biosystems engineering. ///

► Follow Matthew Wilde on Twitter @progressivwilde.

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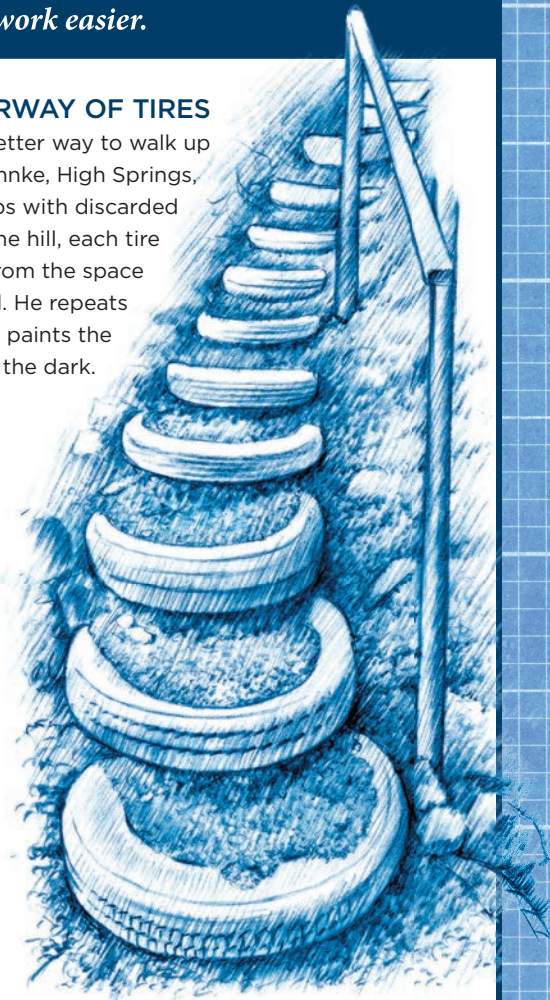
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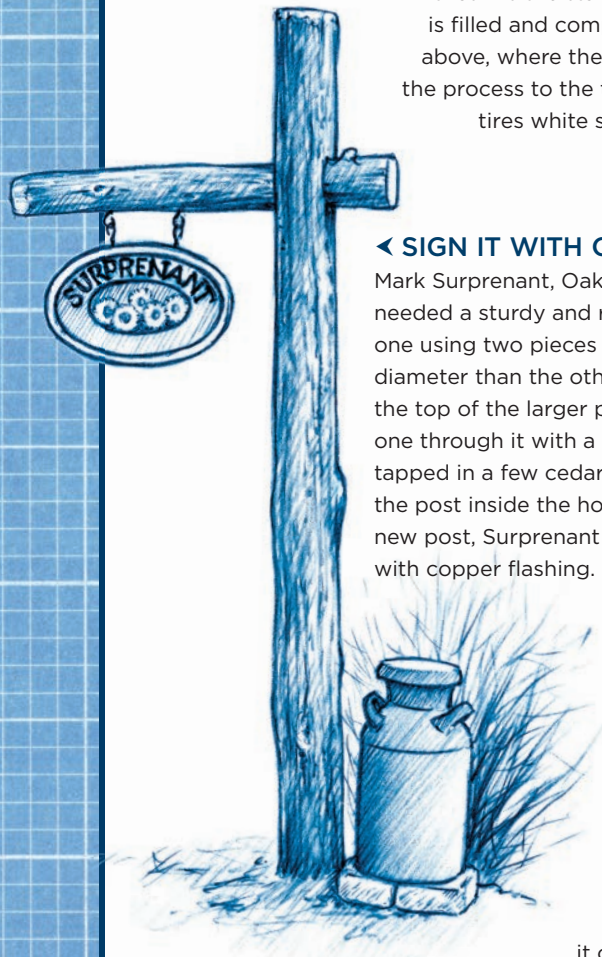
► STAIRWAY OF TIRES

Ever find yourself in need of a better way to walk up a frequently traveled hill? Larry Behnke, High Springs, Florida, came up with a way to make steps with discarded tires. As the stairway rises up the side of the hill, each tire is filled and compacted with the dirt dug from the space above, where the next tire up will be placed. He repeats the process to the top of the hill. Behnke also paints the tires white so they are easier to see in the dark.



◀ SIGN IT WITH CEDAR

Mark Surprenant, Oakdale, Connecticut, needed a sturdy and rugged signpost. He made one using two pieces of cedar, one larger in diameter than the other. He cut a hole through the top of the larger post and drove the smaller one through it with a sledgehammer. He also tapped in a few cedar wedges to better secure the post inside the hole. To better preserve his new post, Surprenant covered the cut ends with copper flashing.



► WATER IN A STRETCH

Everyone who wears them knows how hard it can be to pull on narrow-necked boots, says Bill Trantum, Little Rock, Arkansas. He has found that a 2-quart plastic bottle filled with water helps create that little bit of extra space needed to slip on his boots. Trantum suggests you leave the bottles in the boots when not using them to keep the neck stretched.



WINNING IDEAS: Win \$400 if your idea is chosen as the month's "Editor's Choice" Handy Device. Win \$200 for other ideas used on this page. To submit a Handy Device, please send clear photographs, detailed drawings and a complete explanation of your idea. With each entry, include your name, address and telephone number. Send Handy Device entries to Progressive Farmer, 2204 Lakeshore Dr., Suite 415, Birmingham, AL 35209. Sorry, but we cannot acknowledge submissions or return photographs, drawings or documentation.

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TRACTOR OWNERS

Choose the Best



Progressive Farmer's new Reader Insights Tractor Study reveals that owners have given John Deere and Kubota the highest marks for overall owner experience. New Holland received one award for fewest reported problems by owners of its tractors. Across three tractor segments evaluated, John Deere received the highest ratings for owner loyalty.

Reader Insights is a first-of-its-kind

study series designed to give voice to how owners rate their farming equipment. *Progressive Farmer* commissioned this study—and is building future equipment studies—in collaboration with SOCAL Approach Marketing and Consulting Group.

Owners supplied detailed information on 7,062 tractors in this study. On average, each of 1,982 owners who returned the tractor study provided information on 3.56 tractors. Tractor evaluations were collected from 47 states. States with most respondents include (beginning with the highest return rate): Iowa, Illinois, Minnesota, Nebraska, Ohio, Indiana, Kansas, Texas, Missouri, South Dakota and Wisconsin.

The Reader Insights Tractor Study divides tractors into three segments: small (less than 100 hp), medium (100 to 235 hp) and large (236 hp and above). Data were collected on 1,397 large tractors, 3,394 medium and 2,271 small tractors.

Fifty-two percent of the evaluated tractors received a rating of 5 for overall satisfaction (on a scale of 1 through 5, 5 being the highest), 34% received a 4 and 14% received a rating of 3 or below. Reliability and ease of operation were similar: Half of the tractors evaluated received top-box ratings of 5, and about 4% received ratings of 1 and 2.

On that same scale, 55% of evaluated tractors received a 5 or “extremely likely” when owners were asked if they



New Holland ranked as the top medium tractor manufacturer for fewest reported problems overall.

would repurchase that brand again. Similarly, 56 to 58% received “extremely likely” scores when owners were asked if they would repurchase another model tractor by that brand, and if they would purchase any product from that brand. About 20% in each case received a 4 rating, and about 20% received a rating of 3 or below.

The picture shifts a bit when owners rated their tractors based on a list of attributes. Fewer numbers of owners gave their tractors top-box ratings for some of its components. For example, 34% of tractors received a 5 for cab comfort (with 11% giving ratings of 1 and 2); 33% of tractors received a 5 for their capability (with 8% receiving ratings of 1 and 2); 23% received a 5 for warranty coverage (about 19% received ratings of 1 and 2). Regarding warranties, it is not clear if this was related to the age of tractors in these groups.

Only 20% of tractors evaluated received a 5 for their advanced technology, while 32% receiving ratings of 1 and 2. Advanced technology problems most often noted were GPS systems, computers, sensors and line drift.

Owner relationships with their dealers are strongly connected to purchase decisions. Three-quarters of all tractors are purchased in part because of the dealer, owners told SOCAL and *Progressive Farmer*. Of the tractor owners who answered the question about the importance of dealers in making their tractor purchases, 40% said the dealer is very important; 35% somewhat important; 15% neither important nor unimportant; 3% somewhat unimportant; and 8% not important at all.

Owners also responded about tractor turnover. Larger tractors are generally newer than small tractors. In fact, for the oldest tractors, turnover approaches “never.” Overall, about 4% of the tractors evaluated have been owned less than a year, 22% have been owned 1 to 5 years, 26% for 6 to 10 years and 48% more than 10 years. Large tractors rated tended to have less time in service: 9% were less than a year old, while 15% were more than 10 years old. The numbers were nearly reversed for small tractors. Only 2% of small tractors were less than a year old, but 66% were more than 10 years old.

Owners told SOCAL and *Progressive Farmer* that newer tractors are very expensive and sometimes overly complicated. Older tractors are often decades old and viewed as longtime trusty and dependable workhorses that are desirable for their durability and lower cost.

The Reader Insights Tractor Study found a fair number of owners paid for their tractors with cash. Overall, 60% purchased their tractors with cash, 38% financed the purchase and 2% leased their tractors. Financing trends differed across the tractor sizes. For large tractors, 39% were purchased with cash, 56% were financed and 5% were leased. Small tractors were dramatically different than their larger cousins. Owners paid cash for 79% of small tractors, 21% were financed and less than 1% were leased. ///

Here are the category winners rated by nearly 2,000 owners of more than 7,000 tractors.

SMALL TRACTORS (less than 100 hp)

- ▶ Top small tractor manufacturer for Overall Ownership Experience: **Kubota and John Deere (tied)**
- ▶ Top small tractor manufacturer for Owner Loyalty: **John Deere**
- ▶ Top small tractor manufacturer for Fewest Reported Problems Overall: **Kubota (0.78 problems on average per tractor)**

MEDIUM TRACTORS (100 hp to 235 hp)

- ▶ Top medium tractor manufacturer for Overall Ownership Experience: **John Deere**
- ▶ Top medium tractor manufacturer for Owner Loyalty: **John Deere**
- ▶ Top medium tractor manufacturer for Fewest Reported Problems Overall: **New Holland (1.25 problems on average per tractor)**

LARGE TRACTORS (236 hp and above)

- ▶ Top large tractor manufacturer for Overall Ownership Experience: **John Deere**
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Forgiveness Keeps Businesses Intact

“The act of forgiving ... is the hardest trick in the whole bag of personal relationships.”

—Lewis Smedes



Write Lance Woodbury at Family Business Matters, 2204 Lakeshore Dr., Suite 415, Birmingham, AL 35209, or email lance.woodbury@kcoe.com.

Mixing family with business adds a complex

dimension to your closest relationships. While you experience the benefits of loyalty and commitment that come with family involvement, an unfortunate result is the pain people can cause one another through frequent interaction. At some point in your family business, someone close to you has, or will, hurt you. And, you will have an opportunity to forgive a family member.

Theologian and author Lewis B. Smedes outlines four stages of forgiveness in his 1984 book “Forgive and Forget.” I have found his description useful in thinking about my own—and the family business participants I know—personal struggle with forgiving those who have committed hurtful acts. The following are Smedes’ four stages.

STAGE 1: HURT

Hurt can come from many sources in the family business, whether you are excluded from a discussion or ignored on an important topic, insulted by an in-law or sabotaged by a sister, overridden by a parent or backstabbed by a brother. On the hundreds of issues and daily interactions that occur in the family-owned company, the chances are high that you will be hurt. Smedes suggests that a significant hurt always has three dimensions: it is “personal, unfair and deep.”

STAGE 2: HATE

Smedes describes hate as “our instinctive backlash against anyone who wounds us wrongly.” He goes on to mention both passive hate, which is the inability to have good wishes for someone, and aggressive hate, where we wish someone to be hurt. The irony in a family business is that hate often exists toward those we are supposed to love—a “love-hate” relationship. Left unchecked, hate can consume us. It becomes a sickness that destroys us.

STAGE 3: HEAL

To begin healing, it is important to think of forgiveness for your own sake—not of the person being forgiven. Smedes says forgiveness is first performing “spiritual surgery inside your soul,” letting go of the hurt and trying to see that person with new eyes. When we do,



we often see the other as a broken person with his or her own pain and needs. Your current feeling about the person becomes disconnected from the pain that was caused you. Smedes describes this process as editing your own memory and suggests it is the most important practice, because it releases you from your hate.

STAGE 4: COME TOGETHER

Smedes acknowledges that while your forgiveness may heal you, it doesn’t automatically rebuild the relationship with the person who wronged you. To do that, you must invite the person back into your life, and that person must enter with a level of understanding about how he or she hurt you—both what was done to hurt you and how it made you feel. In other words, that person must listen to, and hear, your description of your pain.

If both are committed to the relationship going forward, you need to trust the intention (which is not a guarantee) not to hurt you again. Your relationship will continue, perhaps in a different way, but you must devote energy to making it work in the future.

Stories of forgiveness in the family business are rare. We hear far more stories of family members estranged from one another. To keep the family and business intact, you will need to forgive a family member now or in the future. Most important, in order to maintain your own health, Smedes reminds us that “to forgive is to set a prisoner free and discover the prisoner was you.” ///



Write Dr. Ken McMillan at Ask The Vet, 2204 Lakeshore Dr., Suite 415, Birmingham, AL 35209, or email vet@progressivefarmer.com.

Lastly, be very cautious when introducing new cattle to the herd. While your cows may be carriers and show little ill effect from the condition, they could infect a new herd member, causing serious illness that could lead to the loss of that animal.

My cows just started eating the bark off my trees? Why are they doing this?

Dr. McMillan: This behavior actually has a name, pica. It refers to the habit of eating something not normally considered food, and it can occur in all animals. One of my favorite episodes of that classic sitcom "M*A*S*H" was when Klinger decided to eat a Jeep in his continuous attempt to get out of the army. I guess you could call that pica.

Some researchers believe when cattle do this, it's due to some sort of nutrient imbalance. Cattle on lush pastures, for example, may be deficient in fiber the rumen needs for proper functioning. Some mineral deficiencies, including those tied to low phosphorus, potassium, copper and magnesium consumption, have been linked to pica. Even low-protein diets have been looked at as the culprit.

So, what does bark have going for it? It is high in fiber, and it does contain minerals and protein. So, there's the possibility your cattle are low in these areas.

A good first step is to evaluate your herd nutritional program. This is going to be key to peak performance and profitability in any herd. If cattle are thin, they may need supplemental feed for additional energy, and/or they may need additional protein.

Cattle also must have a balanced mineral program. A trace mineral block is not adequate. Minerals can be supplied a few different ways; most commonly, they are in supplemental feed, in lick tubs or probably loose minerals in some type of feeder.

It's not enough to just supply minerals; you need to be sure the cattle are consuming them. So, think about palatability when choosing a mineral, as well as how well it fares out in the elements.

And, while those are all of the scientific reasons cattle will eat bark off of trees, there's one more: In some cases, I am convinced cows just get bored. This can simply be a bad habit but one that cows can teach each other.

Please contact your veterinarian with questions pertaining to the health of your herd. Every operation is unique, and the information in this column does not pertain to all situations. This is not intended as medical advice but is purely for informational purposes.



JOEL REICHENBERGER

Anaplasmosis Management Takes A Team Approach

We have a cow that checked PCR positive for anaplasmosis. We treated her with antibiotics, and she appears to be fully recovered. After she weans her calf, should we sell her? We don't know if she's likely to contract anaplasmosis again or if she poses a threat to her herd mates.

Dr. McMillan: This cow is almost certainly a carrier, and she will not likely ever show signs of the disease. But, as a carrier, she is a definite risk to other cattle.

I am not sure whether anaplasmosis is considered endemic in your area. If it is, you need a plan possibly with ongoing treatment. That is a decision to make with your herd veterinarian. I also do not know how many cows you own or if you are "fence to fence" with other herds. This, too, can affect how you handle anaplasmosis. You can probably tell what I'm saying is there is no across-the-board best answer for how to handle this.

I do advise checking your entire herd to determine its status. That is Step 1. Other standard recommendations that will not change include the use of a clean needle with each injection, as well as the cleaning of all surgical instruments (tattoo pliers, castration tools, dehorers) between each use. Anaplasmosis is a blood-borne disease, which is why it's so important to take these steps when working cattle to avoid spreading it within your herd.

This is also why tick and biting fly control is important. Both of these pests can be significant sources of anaplasmosis transmission, but because ticks are a biological vector, they are an especially common mode of transmission. So, make sure your management is on target for these pests to avoid additional problems.



Meat Shortages Build Markets

Consumers seek out local cattle producers to buy beef directly from the source.

A lot of beef producers have worked hard the last few years to reach consumers hoping for income streams tied to direct sales. Today, all of that has flipped. In many areas, consumers are now reaching out to their local farmers looking to buy product directly from the source.

Third-generation Virginia beef producer Basil Gooden says one result of current meat shortages may well be a long-term change in how people buy and consume food.

Gooden is a visiting scholar at Virginia



Virginia cattleman Basil Gooden says meat shortages could lead to long-term changes in how people buy and consume beef.

PHOTO COURTESY OF BASIL GOODEN

Commonwealth University in the Sustainable Food Access Core of the Institute for Inclusion, Inquiry and Innovation (iCubed). He has served as Virginia secretary of agriculture and forestry, as well as the Virginia State director for rural development at the USDA. He believes

the Covid-19 pandemic has the potential to impact future connections between beef producers and their local communities.

The Goodens' family farm is an Angus-based commercial cow/calf operation with about 80 head in Buckingham County, Virginia. Gooden says they were in the process of transitioning the operation to more direct sales before the pandemic.

"We believe there is a lot of long-term opportunity in that approach, and we're encouraging others to look at direct-sales platforms, especially in this time of panic buying," he explains. Gooden notes that in his area, not only are buyers looking for direct sources for meat, but he's seeing more interest in gardening.

"Simply put, people are more interested now than ever in knowing where their food comes from," he says. "I also find it interesting in reading reports that we're not seeing those plant-based food products flying off the shelves. I think in times of stress and uncertainty, people go back to what they know."

PRICING QUESTIONS

As someone who loves agriculture, Gooden says he's worked throughout his career to find ways small farmers can benefit by meeting local food needs. Currently, many of his conversations are around the price of commodities, specifically beef. Many producers feel they have not been treated fairly by traditional consumer markets.

"As someone who takes beef to market, I can speak firsthand about not getting paid close to what we should based on work and effort. But, looking at the bigger picture, it's important to understand there is a lot that goes into the process that takes beef from the farm to wherever it is sold. All along the way, whether it's distribution costs or marketing, there are costs the average farmer never sees. In traditional markets, we don't assume that responsibility, but someone in that supply chain does. There are a lot of layers, a lot of costs, we never see."

Current conditions may make building that direct-sales platform more attractive for many producers. Gooden explains it has become clear to many in our communities that farmers are not paid their true worth.

"It's the underpaid who are the ones we are really depending on right now. When people are concerned they may not have enough food to eat, maybe they wake up and say, 'Let me value a farmer more, let me pay a little more, let me create these relationships and support my local farmers.'

"If you can sell directly to the people who will cook and consume your product, that is ideal. You develop a relationship with that end consumer. They know you, and they know your operation. You can share with them your views on sustainability, how you are an environmentally friendly producer who uses humane practices. When they know you, they are interested in your future. It's a win-win-win."

A NEW GENERATION

Gooden admits it takes time to build direct markets. But, he says a successful approach he's seen is to bring in the next generation, allowing them to work on this part of the business.

"Every farmer or livestock producer doesn't want to do direct marketing. There can be a huge learning curve. We may be the best at production but not

good in marketing or salesmanship, or promoting ourselves. Many farmers are humble, they'd rather be out working in the field or tending their livestock. By bringing in the next generation, we cannot only build new markets but create opportunities for the farm to support more family members. This is a time we can

closed. That's hard to see. It's challenging to make them go, but we have to keep at it."

OUTSIDE RESOURCES HELP

Lastly, Gooden says farmers need to remember they have resources, whatever their concerns right now. He

"I'm encouraging everyone in agriculture to hang on and see this as a chance to grow and be better."

–Basil Gooden

lean on the younger generation to bring in new ideas that could make a huge difference moving forward."

An ongoing challenge for direct sales, Gooden adds, is availability of USDA slaughterhouses. He says in his experience, this can be very frustrating, and it can seem like a limitation.

"I used to be state director for rural development in Virginia, and we put a lot of money into rural slaughterhouses. One we had high hopes for recently

encourages producers to reach out to their local Extension specialist or county agent, whatever the issue, from financial to a need for help with anxiety or depression.

"Today, the average American is more aware they are relying on a farmer than they have ever been before. I'm encouraging everyone in agriculture to hang on and see this as a chance to grow and be better, and make connections locally. This could really change the future of our industry in a lot of meaningful ways." ///

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Worn Teeth

I have a Farmall C that has an occasional starting problem. The teeth are worn off in a spot on the ring that goes around the flywheel. I think I will need to replace this ring that the starter engages to start the tractor. It makes a grinding noise when it does not spin over the engine. I can grab the fan and move the engine a little, and she will start just fine. How do I go about changing out this big ring?

STEVE: You have located your problem. The good news is that you are only going to spend a few dollars for the part (see photo). The bad news is that you will need to split the tractor between the engine and the bell housing. The starter ring fits on the flywheel by a process called thermal expansion of the starter ring. You can heat the old starter ring with a torch by moving the heat around and around the ring until it falls off. You can also use a torch to slice it and knock it off with a hammer and punch.

What I like to do when possible to make the installation easier is to put the flywheel in the freezer for a few hours. This contracts the flywheel circumference. Then, quickly lay the new starter ring on the flywheel and begin a circular motion around the ring. It will expand and eventually fall over the flywheel—magic. However, do not leave the torch in one place very long, and never let any part of it get red hot. If it gets red hot, it will become annealed, which means it transforms into a softer state.

For some reason, an engine likes to stop near the exact same location. That is why a starter ring seldom shows any wear except in the “bad spot.” By the way, when changing the starter ring, this is an excellent time to change the engine rear oil seal.



Write Steve Thompson at Ask The Mechanic, 2204 Lakeshore Dr., Suite 415, Birmingham, AL 35209, or email mechanic@progressivefarmer.com.

I have a John Deere 3020 gas tractor with a generator. It is a 12-volt system. I don't think my generator is charging. It only has a light that tells whether it is charging or not, but it does not work. Can you tell me how to check the generator with the tractor running?



STEVE: There are a few ways to check your generator to see if it is OK. You can check your generator output by removing the wire that does not go to charge your battery. It should be marked F (field). With the engine running at a fast rpm, put a jumper wire on the F terminal and ground it. If the generator is OK, it should charge wide open if the regulator and wiring are good. You should hear the tractor engine load, and your battery should be charging. **Warning: This is only for test purposes. Your battery will quickly overcharge if you leave it hooked up.**

Another easy way to check to see if your battery is being charged is to simply put a voltmeter (on DC volts) across the battery posts with the tractor running. The reading you are looking for is 13.8 to 14.2 volts on a 12-volt system and 6.9 to 7.1 volts on a 6-volt system if everything is up to specs.

SAFETY TIP OF THE MONTH

Many times, when a fire starts, it is a surprise. But, the biggest surprise fire I ever experienced was the time I looked back, and the hayfield was on fire. I was cutting hay with a side cutter in a field that had scattered pebbles, and the sparks made from the blades hitting the pebbles set the field on fire. I thought for sure I had a hot bearing. Not this time. Be careful in extremely dry conditions and short dry hay. I now borrow the fire extinguisher off the round baler when I cut hay with the side cutter.

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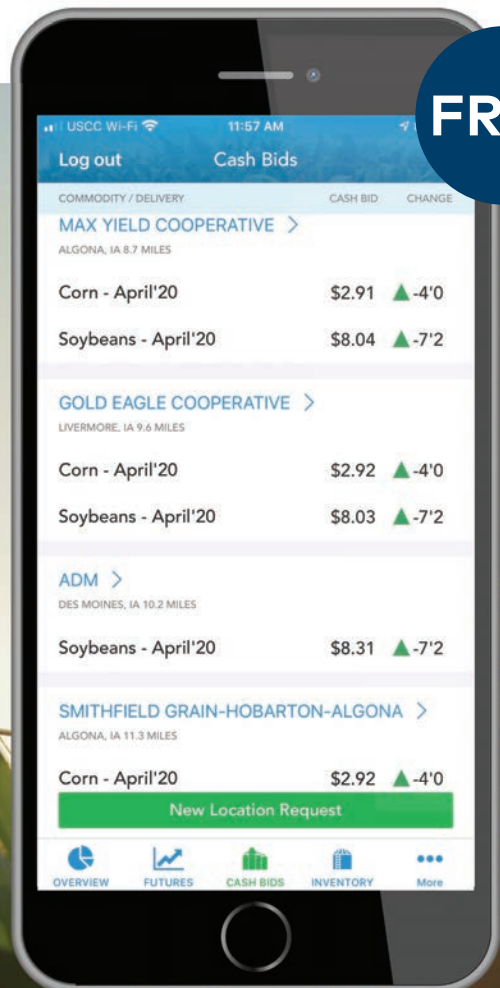
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Land Lease Know-How

Misunderstandings about rental property only lead to bigger problems down the road.

Ever heard someone say they've had a handshake lease on a piece of farm ground for 20 years? From a legal standpoint, they leased that land 20 times for one year each time. What's the difference? It's a distinction that matters under the law because it affects things like lease termination.

Rusty Rumley, senior staff attorney at The National Agricultural Law Center, based at Fayetteville, Arkansas, says oral leases are still a fairly common part of doing business in the farming industry today. However, these oral, or handshake, leases are beginning to disappear.

"Oral leases used to be the rule rather than the exception," he notes. "We are starting to see them go away due, to some extent, to USDA programs that require those trying to apply for disaster assistance to be able to show a written lease to prove legal possession of the land."

As the leasing landscape shifts, Rumley says both landowners and tenants will need more knowledge about how leases work and what they want from the agreement.

ORAL LEASES HAVE LIMITS

Most people have never heard of the statute of frauds, but this is common-law doctrine that many states have adopted by statute. It requires all leases longer than one year be in writing. The statute also controls real estate transfers and exchanges.

Essentially, the statute of frauds requires these types of agreements to be in writing and signed by those against whom enforcement could be sought. So, while two longtime friends can have a handshake agreement over a piece of rental land, because that agreement involves real estate and/or an agreement that takes more than a single year to complete, if it is not written and signed, a court could find the contract to be invalid should there be a disagreement over terms.

LEASE TERMINATION

When a party to an oral lease wants to terminate it, rules vary by state. Rumley says in Arkansas, for example, termination requires a written notice delivered by certified mail. It must be made on or before June 30 and pertains to the next year. Essentially, this is a six-month notice of term for a full-year lease.

How does a written lease help here? Rumley says a written lease should include a clear path as to how

either party terminates the agreement. Those terms, as long as they are agreed upon by the parties, do not have to follow particular state laws regarding timing or how notice is delivered.

LAND-USE CONSIDERATIONS

What will the tenant use the land for? Don't make assumptions based off of the norm or a history with a particular tenant.

Rumley says a landowner might assume he is renting the property to the tenant for rice production, for example, because that's the history the two parties have between them. But, things change. Perhaps low rice prices have forced the tenant to look for other revenue opportunities.

"What happens when that tenant also leases out duck-hunting rights?" Rumley asks. "That can be lucrative. Does the landowner get a share of that? It is also something that brings an added level of liability to the land. Suddenly, there are additional people coming onto the land with guns. As the landowner, are you OK with that from both the financial and liability standpoints?"

He adds there can be issues around what crops are to be grown on rented land. This used to primarily be a decision based on the market and what a tenant was set up for. A landowner could assume a tenant would be producing one of a limited number of traditional crops for that region. But, today hemp and medical marijuana could show up on a landowner's property if the farmer believes these offer an opportunity for increased revenues and diversity.

"You want to know, as a landowner, who will use the land and what crops it might be used for," points out Rumley. "Some landowners even want to stipulate against production of certain crops over concerns of liabilities attached with their production."

CHANGING GENERATIONS

When a tenant passes away, if there is time left on the lease, this will typically pass to heirs. A good written lease will provide for this scenario.

"If you have something in writing where everyone knows their rights and obligations under these circumstances, it can prevent problems, even if everything seems perfect between the contracting parties," Rumley explains.

LIABILITY QUESTIONS

If a farmer sprays a herbicide that drifts onto someone else's land, and it damages a crop or landscape, who is liable: the farmer or the landowner?

This can depend on the state, Rumley says. In some cases, the farmer is liable, especially when it comes to selecting an applicator who is qualified, or if the farmer is the applicator, in taking proper precautions.

Many common-law leases today include liability clauses. It's not uncommon to require a tenant to purchase liability insurance for the activities that take place on that property and to list the landowner as an additional insured.

CONSIDER THE POSSIBILITIES

Renting pasture next to a highway? What happens if the cattle get out and cause an accident? This is an example of a type of risk that should be considered based on what a tenant is doing on the land. Agritourism is another example. If hundreds of kids are going to come every year to a pumpkin patch or a corn maze on rented land, this is clearly a higher risk use of the land than if it were an isolated soybean field without anyone living within a mile or two. The lease between the parties and the

responsibilities associated with those enhanced liabilities should be reflected in the terms of the agreement.

CROP INSURANCE

Are tenants required to sign up for crop insurance? That likely depends, to a large degree, on the type of lease they have. In cash rent situations, especially those paid up front, Rumley says there's likely nothing in the lease about the amount of crop insurance the tenant should carry. If it's a range lease, again there's likely no requirement. But, if the agreement is a crop share lease, the landowner has a stake in the crop. Because he has this financial interest, he will probably want the crop protected through insurance. ///

FOR MORE INFORMATION

An attorney-prepared land lease is well worth the time and cost. It serves to protect both landowners and tenants. Generic lease templates are available online. Visit The National Agricultural Law Center for background, sample leases and links to other sources.

► nationalaglawcenter.org/wp-content/uploads/assets/articles/Ag-Leasing-Handbook-SRMEC.pdf

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Another Tragic Year

Confined spaces incidents rose 10% in 2019.

Purdue University's Agricultural Confined

Spaces unit documented a nearly 10% increase in 2019 confined spaces incidents. Produced annually, this report is an accounting of tragedy on the American farm, especially those in the Midwest.

Confined spaces injuries and fatalities include grain entrapments, falls, entanglements and asphyxiations. Confined spaces incidents are often due to farmers, family or employees entering bins to clear voids over outlets or crusted grain from sidewalls.

One author of the report is Bill Field, arguably the preeminent expert on grain incidents. "I'm most surprised," he says, "of the incredible number of incidents from the last part of 2019 and into 2020." He thought when planting season arrived, entrapment incidents would largely fade away. But, he is still tracking cases. "The amount of immature corn is still causing problems throughout the Corn Belt," he says.

Field, professor of agricultural and biological engineering at Purdue, examined his first grain incident in 1977. In that, a man died (it is most often men who die) in an 8,000-bushel bin filled with out-of-condition corn. "I remember firefighters crying because they did not know what to do," Field says.

TOP OF THE LIST

Minnesota is a particularly difficult spot this year. Field says the state is generally in the top five reporting confined spaces incidents. But, it has now topped the list.

One man died, Field retells, inside a grain bin when a column of corn fell onto him. Field says the roof leaked into the center of the bin forming a 17-foot, 4-inch-tall stalagmite of corn—a column of corn rising from the floor. The man was chipping away at it before tons of corn toppled onto him.

Soybeans have been a particular problem this year, Field says. That's true even in the South.

He says reports reveal that some 2019 beans work like slush. The soybeans are soft, wet, spoiled and full of trash and plant material, which creates a mass that won't flow. In one incident, Field reports an 80-year-old man became trapped in material such as this. He climbed into the bin from a side door to knock down beans stuck to the wall. The mass came loose and nearly buried him in an avalanche. Rescuers were hampered in their efforts immediately by the slushy mass.

"Poor grain quality always increases the risk of entrapment," he says. "It puts fireman in danger."

"Most corn is of questionable quality this year," agrees Gary Woodruff, a grain-conditioning expert with GSI. Growers were urged to dry their corn down to 14% this year, but few actually accomplished that.

"Grain went into the bins at a lower quality, higher moisture and with more fines this fall, which makes this year much more dangerous," he says. Fines may congregate in the center of the bin where they obstruct airflow. The centers don't cool, and they can go bad, Woodruff explains.

When a farmer, farmer's child or employee dies in grain entrapments, they most often die alone. Of 1,200 grain entrapments documented over the decades by Purdue, 800 died alone.

From the 1970s forward, Purdue University's Agricultural and Biological Engineering department has been investigating incidents involving grain-storage and handling facilities at both commercial and on-farm locations. Beginning in 2013, the effort was expanded to include incidents involving grain transport vehicles (trucks, wagons, railcars); injuries occurring inside of confined spaces because of exposure to powered mechanical components, such as augers; falls from or into confined spaces; and other types of agricultural confined spaces, including forage storage silos, liquid storage tanks and manure-storage facilities.

HISTORY OF DEATH

As of the end of 2019, the Purdue Agricultural Confined Space Incident Database held information on 2,117 cases between 1962 and 2019. Of these, 60% were fatal. A large majority involve grain-storage and handling facilities. Field believes 30% of all cases go unreported or undocumented.

The 2019 report documented 67 cases of confined space incidents, a 9.8% increase over 2018. That includes 38 grain-entrapment cases (up 26.7% from 2018), eight falls into or from grain-storage structures, five asphyxiations from deficient oxygen levels or toxic environments, and 11 equipment entanglements, such as those involving in-floor and sweep augers. Fatalities numbered 39 in 2019, higher than nonfatal cases (28).

One in five of all agricultural confined spaces accidents, which includes grain accidents, involve young adults and children under 21.





While grain entrapments accounted for 56.7% of all documented cases during 2019, that percentage fell below the historical average.

OLDEST TO THE YOUNGEST

There were confined spaces incidents in 15 states last year. Those with the most included Minnesota (13), Iowa and Nebraska (eight each), and Wisconsin (seven). Four cases each were documented in Illinois, North Dakota and Ohio. The oldest victim was 82. The youngest, 11. All cases were males.

This is a year for altering grain-handling practices. If a farmer is handling his grain this year as he has done in past years, he's making a mistake, Woodruff says. "I have a hard time not getting upset," he says. "Farmers want

to get into those bins and do something, and too many of them are going to die."

Purdue's 2019 entrapment report includes suggestions for managing grain that won't flow. They may not be

the most profitable options, the report concludes, but they are intended to keep everyone safe.

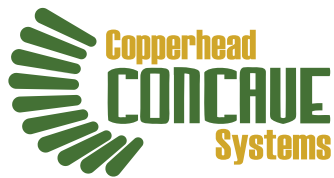
► Never enter a bin where there is evidence of crusting on the surface or within the grain mass. Stay out if grain is removed from the structure and the surface has not flowed inward. This is a clear sign that crusting is present and a void has formed over the outlet.

► Immediately remove grain if there are any signs it has gone out of condition. Grain condition will not improve if left in storage. It will get worse.

► Perform all observations or unplugging efforts from outside the bin at the top access hatch. In some cases, long pipes, rebar or other probes can be inserted into the grain mass to break up crusted grain or trash that is plugging the outlet. Watch out for overhead power lines when handling these long probes.

► If the grain has become so crusted it cannot be removed according to the bin manufacturer's recommendations, contact a professional grain salvage service to remove out-of-condition grain.

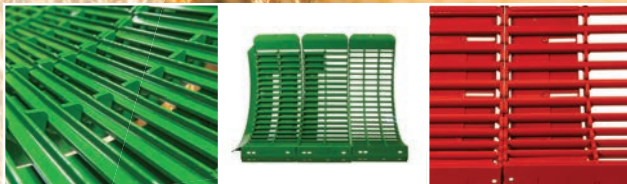
► Do not cut the side walls of a bin without consulting the manufacturer. Cutting into a bin can damage the structural integrity of the bin or result in uneven unloading, which can cause the structure to fail and collapse. ///



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Out of the Cab And Into View



COURTESY OF RYAN JENKINS

Ryan Jenkins and Reid Thompson may farm in the same time zone, but that's where the similarities in their farming operations end. What brings them together is they are both participating in "View From the Cab," a *Progressive Farmer* and DTN project.

Throughout the 2020 growing season, Jenkins, based in Jay, Florida, and Thompson, Colfax, Illinois, will discuss crop conditions, agronomic concepts and general farm life. Find a snapshot of their operations below, and follow their weekly reports at www.dtnpf.com.

Ryan Jenkins farms in the temperamental Florida Panhandle with a few fields crossing the Alabama state line. Managing just shy of 1900 acres, he raises mostly cotton and peanuts, and mixes in a few acres of corn and soybeans. He also plants wheat and oats in fall as a cover crop to be harvested the next spring for seed.

Drought conditions plagued planting this spring, and hurricanes routinely stir up weather uncertainty during summer months. Hot, humid conditions make this region a hotbed for crop diseases.

Jenkins grew up dreaming of being a farmer. Early in his career, he combined farming a small family acreage with careers as a crop duster then a paramedic on a medical helicopter. He started increasing acres in 1995 and made the choice in 2014 to farm full time with his father, Rennie, joining as a partner.

On-farm testing of inputs, adapting new farming technology and telling agriculture's story are passions. Subscribe and follow his YouTube videos on crop production at bit.ly/2yVQ1as.

His wife, Debra, works in the nursing profession. Their sons, Cole and Chase, now help on the farm between college and high school commitments.



Follow the latest from Pamela Smith, Crops Technology Editor, by visiting the Production Blogs at dtnpf.com or following her on Twitter: @PamSmithDTN.

Reid Thompson left an off-farm job as a farm manager to return home to farm full time in 2019. He's also a licensed real estate agent and auctioneer.

Together with father, Gerald, the combined Thompson Farms encompasses 3,400 acres spread across 45 miles and McLean and Ford counties. They have individual land holdings and rental acreage, and each owns equipment, but there are shared leases, too.

Thompson's focus has been to trim expenses and streamline operations. Transitioning to no-till soybean production and a strip-till corn system has helped reduce passes and machinery.



REID THOMPSON

COURTESY OF REID THOMPSON

Building liquid nitrogen storage and a chemical-mixing shed is allowing them to buy wholesale inputs and avoid custom-application charges. In 2020, the farm plan is to upgrade the grain-storage system. Seed-production contracts with major brands and custom work for some local farmers also provide additional income streams.

The value of tile was evident this spring as large rain events consistently found their flat, highly productive soils during planting.

Thompson's wife, Heather, is the manager of digital communications for Growmark, and they have two sons, Abe and Hank. Read more about their farm at thompsonfamilyfarm.org. ///

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Operation Evolution

The tractor cab may be in for a makeover, realigning for a future as a rolling office when driving is an afterthought.



A VISION OF THE FUTURE

Deere proposes the Command Cab. “It’s our vision that, as we go toward more automation and ultimately autonomy, the role of the operator goes away from direct control and more toward supervision both in the field you’re in and management of your entire fleet,” says Josh Hoffman, Deere’s lead for user experience and industrial design.

The Command Cab is an LCD-laden cocoon of productivity.

One wide LCD spans across the user’s chest packed mostly with on-sight information such as the machine’s progress in the field, application rates and speed. Problem with the planter? There’s an alert for that and so much more.

John Deere built its Command Cab concept to manage not just the tractor in the field but the whole farm.

There’s another wide, narrow LCD above the forehead, this one featuring information on everything from GPS coordinates to weather reports to the actions of a farm’s drone fleet or the progress of another tractor working on a different task in a different field.

A video call may pop up from home checking to see when dinner should be ready or from the employee asking what to tackle next. There could be alerts and suggestions, as well, perhaps from a camera drone that has detected weed growth, such as “Would you like to deploy the sprayer?” You can do so with the tap of a finger.

“It’s not just the job you’re managing right now,” Hoffman says. “It’s the context you get of other jobs at the same time. You see other fields, other work happening, other machines doing their job. You’re in command of the entire operation.”

Press one button, and the lower LCD turns translucent, allowing a camera-assisted view down to the front tires. Press another, and the whole screen physically lowers away.

LOOK MA, NO WHEEL

What a user won’t see is a steering wheel, which would be replaced by a joystick.

Engineers consider the view and the ability to swivel, head clearance and shock absorption, and who could forget lumbar support? There’s no detail too small when it comes to designing the seat and the cab on a piece of ag equipment.

“The appearance of the seat leads to comfort,” says Tilo Kefer, with one of the industry’s leading seat-design companies, Grammer. “Even the color is comfort. If you like the seat, you feel more comfortable sitting in it.”

Tractor and combine cabs have come a long way since “comfort” was defined by how a rear settled into a molded steal seat. But, even after Bluetooth-capable sound systems and information-packed LCD monitors have become common, the cab, a farmer’s throne, could be in for a serious makeover. Fresh designs will seek to turn the cab into a data and decision-making hub, allowing a farmer to control a whole operation from an ever-more comfortable seat as autonomy continues to take over more of the actual job of driving and operating machinery.

John Deere showed off its vision for a “cab of the future” last fall at the Agritechnica machinery show, in Hanover, Germany, trying to answer questions that are ringing throughout the industry.

How long will an active tractor driver be necessary? How long, in turn, will a cab be necessary? Finally, what’s a farmer to do in that cab for what seems destined to be a gap in development when tractor and equipment are ready to do almost everything on their own but not ready to be truly left alone?

Deere is not alone. Fendt debuted its IDEALDrive joystick control for its combines in Europe last year, making it the first combine from a major manufacturer to remove the steering wheel in favor of a stick.

“The main thing is you have a better view. You can sit back, very relaxed in a great sitting position,” AGCO sales engineer Johannes Bröker explains.

The joystick, on a user’s left hand, incorporates buttons for the horn, GPS activation and lights. The innovation promises a clean end-to-end view of the header and an easier time turning the machine around on the headlands, all amounting to less operator fatigue.

“A big advantage is you have much shorter movements of your arm, and you’ll turn around fast,” Bröker says. “It’s a different feeling the first time without a steering wheel in front of you, but you’ll quickly get familiar with the system.”

Fendt claims a 6% increase in productivity with its IDEALDrive joystick and a 65% reduction in “operator steering workload.” The option is set to be available for North America by 2021 in all Class 7 to Class 10 Fendt IDEAL combines.

HAVE A SEAT

Other cab innovations are en route or have already arrived in cabs. Pneumatic lumbar is often available, and some seat manufacturers are working on an inflation system for the sides of seats, furthering the embrace of the operator. Heated and air-conditioned seats are options on many new machines, and some distant dreams include sewn-in sensors that would automatically control that temperature depending on an operator’s body temperature or heart rate.

“Everybody’s talking about it,” says Jeff Linnberg, with Sears Seats. “Some of it borders on being hokey or not really worth it, but there might be something in there that makes sense.”

Massage chairs are coming, too, not as a gimmick but as a way to keep an operator comfortable all day.

“Customers have asked for it again and again,” Deere’s Hoffman says.

At Apache Sprayers, designers changed the angle on armrests to allow for more arm and legroom, and a premium seat option includes heating and air-conditioning. Units now are available with premium stereos and speakers.

Case’s newest Magnum series of tractors comes with redesigned armrests loaded with 11 buttons programmable for more than 100 functions, making ergonomics better for an operator.

A NEW REALITY

In-cab amenities in agriculture tend to lag behind but follow automotive features, but change is likely looming across both industries. Once you start tinkering with what an operator does while the tractor drives, how that operator sits can change, too. There are different needs when constant, sharp focus is required more than there are when a farmer will pay more attention to info-packed LCD screens or even relaxing in front of Netflix.

The newest seat innovation now includes ways to increase comfort, but engineers are already puzzling over how to adjust for a dramatic change in function.

“It may turn more toward an office chair. A lot of things now are designed for a driver to look over the right shoulder at an implement, but an advanced cab with a lot of video screens, there may be less need to look over your shoulder because there will be video screens doing that for you,” Linnberg explains. “Then the seat designs will change shape and get taller. It will move and flex more, like an office chair.”

Then again, there could be a tipping point. Even if the days of monitoring equipment from the home office seem distant, autonomous tractors built to work in a field aren’t, and they are, in fact, already on the market.

A top-of-the-line cab can account for a large chunk of the cost of a new machine, but how necessary is that when the tractor may spend most of its life following a leader?

“There’s no doubt we’re moving to this autonomous stage,” says John Fulton, an associate professor at Ohio State University. “You could have a step-down version of some tractors that have all the capability to do field functions but are managed remotely. You could actually draw back from all those cab features.”

The seats farmers do spend most of their time in, however, are likely to remain comfortable. ///



Joysticks may replace steering wheels, allowing better views in the cab, which are getting comfy upgrades of their own with heated and cooled seats.

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3500	MAX. STARTING WATTS	3000
3000	RUNNING WATTS	2800
100 LBS.	WEIGHT	131 LBS.
2.6gal.	TANK SIZE	3.4gal.
4	OUTLETS	4
YES	OVERLOAD PROTECTION	YES
212cc	ENGINE SIZE	196cc
YES	LOW OIL ALERT	YES
YES	PARALLEL CAPABLE	YES
YES	POWERSAVER	YES




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3500	MAX. STARTING WATTS	3000
3000	RUNNING WATTS	2800
100 LBS.	WEIGHT	131 LBS.
2.6gal.	TANK SIZE	3.4gal.
4	OUTLETS	4
YES	OVERLOAD PROTECTION	YES
212cc	ENGINE SIZE	196cc
YES	LOW OIL ALERT	YES
YES	PARALLEL CAPABLE	YES
YES	POWERSAVER	YES




PREDATOR 3500 ~~\$799.99~~ **PRICE \$2,019**

ITEM 56720/63584 shown

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*HONDA EU3000iS1A stated specs

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★★★★★ (827) **42" Off-Road Farm Jack**



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32918133 LIMIT 3 - Exp. 9/15/20

WOW! SUPER COUPON **SAVE 94%**

★★★★★ (456) **3-Point Quick Hitch**



\$79.99 ~~\$109.99~~ **Save \$120**

Compare to Double HH 10712 \$199.99 ITEM 97214

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32883815 LIMIT 2 - Exp. 9/15/20

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★★★★★ (1391) **9 Piece Fully Polished Combination Wrench Sets**



\$5.99 ~~\$7.99~~ **Save 66%**

Item 42304 shown

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SAE	69043/63282/42304
METRIC	69044/63171/42305

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32885198 LIMIT 4 - Exp. 9/15/20

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★★★★★ (586) **20 Gallon, 135 psi Oil-Lube Air Compressor**



\$164.99 ~~\$189.99~~ **Save \$85**

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32885814 LIMIT 1 - Exp. 9/15/20

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★★★★★ (1215) **Two Tier Easy-Store Step Ladder**



\$19.99 ~~\$29.99~~ **Save 40%**

Compare to Werner S322A-1 \$33.88 ITEM 67514

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32890068 LIMIT 4 - Exp. 9/15/20

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★★★★★ (8245) **4 Gallon Backpack Sprayer**



\$19.99 ~~\$29.99~~ **Save 69%**

Compare to Roundup 1900214 \$65.98

ITEM 61368 63036/63092 shown

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32891899 LIMIT 3 - Exp. 9/15/20

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★★★★★ (785) **2 HP Gas Powered Earth Auger with 6" Bit**



\$179.99 ~~\$214.99~~ **Save \$259**

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★★★★★ (2150) **Low-Profile Creeper**



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★★★★★ (940) **3/8" x 25 ft. Industrial Grade Rubber Air Hose**



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★★★★★ (2639) **14", 9 AMP Electric Chainsaw**



\$39.99 ~~\$49.99~~ **Save 50%**

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ITEM 64498 64497 shown

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32910547 LIMIT 3 - Exp. 9/15/20

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★★★★★ (3366) **3 Piece Solar Decorative LED Lights**



\$5.99 ~~\$7.99~~ **Save 62%**

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32913018 LIMIT 4 - Exp. 9/15/20

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★★★★★ (1203) **16 oz. Hammers with Fiberglass Handle**



\$2.99 ~~\$5.49~~ **Save 70%**

Item 47873 shown

TYPE	ITEM
CLAW	69006/60715/60714/47872
RIP	69005/61262/47873

Compare to Kobalt 62742 \$9.98

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32916690 LIMIT 4 - Exp. 9/15/20

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★★★★★ (423) **Heavy Duty Multi-Vehicle 750 lb. High Lift Jack**



\$179.99 ~~\$209.99~~ **Save \$232**

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Chipper/Shredder with 6.5 HP Gas Engine (212 cc)

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44" x 22" Double Bank Extra Deep Cabinet

- 14,000 cu. in. of storage
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- Heavy duty 5" casters
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Item 64446, 64955, 64443, 64954, 64281, 64956

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HaulMaster ★★★★★ (6043)

18" x 12" 1000 lb. Capacity Hardwood Mover's Dolly

\$7⁹⁹

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Save 65%



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32936375 LIMIT 4 - Exp. 9/15/20

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Heavy Duty Foldable Aluminum Sports Chairs

★★★★★ (4587)

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\$19⁹⁹

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Green ITEM 63066/62314 shown Blue ITEM 56719

Compare to Coleman 635394 \$39.99

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32943821 LIMIT 3 - Exp. 9/15/20

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12" Ratcheting Bar Clamp/Spreader

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32966830 LIMIT 2 - Exp. 9/15/20

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BADLAND ★★★★★ (2215)

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32975821 LIMIT 3 - Exp. 9/15/20

✓ SUPER COUPON

Kenway ★★★★★ (695)

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32975821 LIMIT 2 - Exp. 9/15/20

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Apache MODEL 9800 ★★★★★ (622)

Weatherproof Protective Rifle Case

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32981854 LIMIT 1 - Exp. 9/15/20

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HARDY ★★★★★ (803)

Mechanics Gloves

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\$4⁹⁹

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32984871 LIMIT 2 - Exp. 9/15/20

✓ SUPER COUPON

WARRIOR ★★★★★ (70)

1500w Dual Temperature Heat Gun (700°-1000°)

\$8⁹⁹

~~\$14⁹⁹~~

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32997700 LIMIT 4 - Exp. 9/15/20

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6 ft. x 8 ft. Aluminum Greenhouse

★★★★★ (760)

\$299⁹⁹

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33008027 LIMIT 1 - Exp. 9/15/20

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PITTSBURGH ★★★★★ (1029)

3 Piece Curved Jaw Locking Pliers Set

LIFETIME WARRANTY

\$6⁹⁹

~~\$9⁹⁹~~

Save 76%



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ITEM 64036/91694 61249/64035 shown

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6.5 HP (212 cc) OHV Horizontal Shaft Gas Engine

\$99⁹⁹

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Save \$230



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ITEM 61964/63448 57191 shown CALIFORNIA ONLY

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33014582 LIMIT 1 - Exp. 9/15/20

✓ SUPER COUPON

PREDATOR ★★★★★ (541)

2" Semi-Trash Gasoline Engine Water Pump (212 cc)

\$189⁹⁹

~~\$214⁹⁹~~

Save \$310



Compare to NorthStar 109163 \$499.99 ITEM 56160/63405 shown

Use Online & In-Store

33021962 LIMIT 1 - Exp. 9/15/20

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GREENWOOD ★★★★★ (2607)

Six Pattern Trigger Spray Nozzle

\$3⁹⁹

~~\$5⁹⁹~~

Save 60%



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33029347 LIMIT 4 - Exp. 9/15/20

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FRANKLIN ★★★★★ (3734)

17 ft. Type IA Multi-Task Ladder

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Save \$189

• 300 lb. capacity.



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33030972 LIMIT 1 - Exp. 9/15/20

OSHA/ANSI COMPLIANT

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HaulMaster ★★★★★ (593)

2 Ton Cable Winch Puller

\$14⁹⁹

~~\$21⁹⁹~~

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For dead loads only. Not for lifting.

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Rural Americans are tired of finding workarounds for poor or nonexistent broadband. They need answers now.



Karen Eifert Jones and husband, Rodney, consult field records before heading to a field to spray. Along with their children, Weston and Caroline (below), they depend daily on internet to get work done. PHOTOS: LARRY REICHENBERGER

antenna or cell phone hot spot, but dependability and cost of these options continue to be major issues. Often, they upend families that have to make inconvenient and difficult choices.

In the case of Eifert Jones, the family had to get its college-aged son, Weston, a hardship waiver so he could stay in his dorm after the campus closed. It was the only way he could continue his studies at Oklahoma State University because of the family's internet service issues.

Her daughter, Caroline, a junior in high school, had to try schoolwork with their weak internet service, sometimes visiting her grandma's basement to turn in her work. She faced lost and late assignments because of the connection.

"She had issues right away with sending in assignments on Google Classroom and Docs," Eifert Jones says. "We learned with weaker internet signals her work didn't always go where it was supposed to."

When Karen Eifert Jones had to complete online training to spray dicamba herbicide this spring, she ended up doing it on her cell phone from the driveway of her 87-year-old mother's house. It was the only way she could get access to the internet.

Eifert Jones farms with her family near Waukomis, Oklahoma. While her mother's house is only about a mile away by road, it's light-years away when it comes to internet access. The best she and her family can get is an antenna-based internet connection. With so many more people using the service in recent months, competition for bandwidth has slowed to a snail's pace.

Asked why broadband access isn't available at the farm, Eifert Jones says she figures the local phone company buried the fiber line only so far, and that was the end of it.

The last few months saw jobs shift to home offices and classroom studies move to kitchen tables. This change has been a major adjustment for workers, employers, students and teachers. And it underscores the lack of high-speed internet, or broadband, throughout many rural areas.

Stories like Eifert Jones' are fairly common to those who have had to operate without broadband. Internet in rural areas can be obtained by satellite,



SCHOOL SENDS SIGNAL

Nebraska farmer Kenny Reinke faced similar issues with rural internet as his children had to continue their school year from home in mid-March. They are based at Neligh.

His oldest child, Tyler, was only in fifth grade, and most of his schoolwork was on paper. But, when the work required the internet, it usually brought issues. The Reinke home sits in a valley roughly 2 miles wide about 8 miles north of Neligh. Because of the terrain, their home satellite internet service is not dependable.

"We are just low enough our signal isn't very strong," Reinke says. Zoom meetings with his son's fifth-grade classmates usually required a ride to the nearest hill. They sat in the cab of the pickup to attend class. The

newer pickup had its own Wi-Fi signal, so any online schoolwork usually meant a ride in the truck.

Reinke is a member of the Neligh-Oakdale Public School Board of Education. He says the Nebraska Department of Education advised school districts to do the best they could once school-at-home started. They expected challenges.

While many of the district's students had access to some form of internet at home, the school set it up so its Wi-Fi signal would include the school parking lot. It was one more option. "We had the local internet provider work with our district's families to make sure kids could get their schoolwork done," Reinke says.

HAVES AND HAVE-NOTS

The trend is toward more broadband access for rural Americans, according to the Pew Research Center, which did a survey in 2019 looking at numbers of rural Americans with a broadband connection in their homes. The survey reports 63% in rural America say they have broadband internet connections in their homes, up from 35% in 2007.

Farmer Michelle Jones, of Broadview, Montana, says her local phone company provided her broadband internet two years ago. Before this, the only way her family could get decent internet from home was through a hot spot device.

"It worked good sometimes, but other times, it certainly did not," Jones says.

Another issue with rural broadband is cost. Jones pays \$140 per month for 50 megabits per second (mbps) of

download speed. Those in the nearby town of Billings receive 100 mbps and pay roughly \$50 per month.

Still, Jones says she is grateful to her local phone company, Triangle Communications, for investing in rural broadband in her region. She notes federal grants are really the only way small rural phone companies can run the fiber cables in rural areas for broadband and expect a return on their investment.

Jones is part of a Federal Communications Commission advisory committee. The subcommittee she works on, Adoption and Jobs Working Group, addresses why farmers aren't adopting precision agriculture technologies in some areas.

"Among the things we will be looking at is the lack of high-speed internet in rural areas," she says, noting this could play a definite role in the speed with which new technology can be adopted.

SILVER LINING

Oklahoma's Eifert Jones says one positive that could come out of the COVID-19 pandemic is an increased awareness of rural Americans' struggles with internet access.

The need for people to work and learn from their homes has opened the eyes of many in leadership to just how bad rural internet is and how critical it is to fix it.

Eifert Jones says she is hopeful more investment in rural internet will be made now knowing how many people could be working or educating their children from home in the future. ///

Note by Note

As I wrote this story about children doing schoolwork

from home during the Covid-19 pandemic, it was an issue I was living personally.

We have a farm about 35 miles northwest of Omaha, but it has no access to broadband internet. We use a hot spot device from our cell phone provider. If you've ever used one of these, you know some days you have great access, other days not so much. For some reason, windy days are the worst.

March 16 was the first day my three kids began their homeschooling adventure. For the younger two—Burke, a fifth grader, and Ella, a third grader—most schoolwork was still on paper. Once in a while, there was a Zoom meeting or a video to watch online. But, our high school freshman, Kyle, was doing all of his work online. That's when our rural internet issues really hit home.

We started getting calls saying Kyle was missing assignments. He swore he was doing the work. Seems on days our hot spot signal was weak, his assignments weren't making it to the Google Classroom or into Docs.

Where there's a will there's usually a way. We started to go to the top of a hill where the signal was stronger each

time Kyle needed to turn in an assignment. He also plays tuba in the school band, so when he had to record audio files to send to his band teacher, he did it from the tailgate of the pickup.

Our school year ended on May 21. We are all looking forward to the summer. We have two things we hope happen between now and the fall:

1) the kids can go back to school, and 2) that the fiber optic wire buried in the roadside ditch last year will make it the rest of the way to our farmhouse.

—Russ Quinn, DTN Staff Writer



Kyle Quinn, 15, plays his tuba from a high spot on the Quinn farm in order to get a strong enough mobile phone signal to send his performance to his band teacher. Brother, Burke, 10, holds the music and sister, Ella, 8, listens. RUSS QUINN



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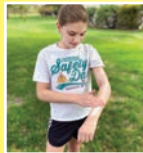
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-Ashlee Then, Progressive Agriculture Safety Day Coordinator, Peosta, Iowa



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3. **Avoid sunburns,** as they significantly increase one's lifetime risk of developing skin cancer.
4. **Seek shade,** especially during 10 a.m. to 4 p.m., when UV rays are their strongest.
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Tastes of the Season

Fresh veggies pair with pasta and salmon for a perfect summer evening meal.



SPRING PESTO PASTA

Substitute peas, spinach or asparagus in this easy-to-adapt dish.

MAKES: 4-6 SERVINGS
TOTAL TIME: 30 MINUTES

- 1 pound rigatoni pasta (or other preferred shape)
- ¼ cup toasted pine nuts
- ¼ cup toasted walnuts
- 3 cloves garlic
- 6 cups packed fresh basil leaves
- ½ teaspoon kosher salt
- ½ teaspoon freshly cracked black pepper
- 1½ cups extra-virgin olive oil
- 1 cup grated Parmesan cheese, plus more for garnish
- 1 cup frozen or fresh peas
- 1 lemon, cut into wedges

1. Cook pasta according to package directions; drain and set aside.
2. While pasta is cooking, combine pine nuts, walnuts, garlic, basil, salt, pepper and olive oil in a food processor; blend until a smooth paste forms. Stir in Parmesan cheese.
3. Toss hot pasta with pesto and add peas (or substituted vegetable), stirring to coat.
4. Serve pasta among bowls. Top with more cheese and a squeeze of fresh lemon juice.



SLOW-BAKED SALMON

This cooking method makes for rich, buttery fish every time.

MAKES: 2-3 SERVINGS
TOTAL TIME: 30 MINUTES

- 1½ pounds fresh salmon fillet (preferably one piece)
- 2 tablespoons Dijon mustard
- 2 tablespoons brown sugar
- 1 teaspoon kosher salt
- ½ teaspoon freshly cracked black pepper
- 2 lemons, thinly sliced
- ¼ to ½ cup extra-virgin olive oil

1. Preheat oven to 300°F.
2. Add salmon fillet to a small, oven-proof baking dish. Brush evenly with Dijon mustard; sprinkle with brown sugar, salt and pepper.
3. Tile lemon slices on top of salmon, covering the entire fillet. Pour enough olive oil into the dish to gather up along the sides of the fish.
4. Bake salmon until it flakes gently with a fork (about 18 to 20 minutes); serve with more lemon wedges.

Recipes and photos by Rachel Johnson
www.stupidgoodrachel.com



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–Brigham Young

Independence

And ye were now turned, and had done right in my sight, in proclaiming liberty every man to his neighbour; and ye had made a covenant before me in the house which is called by my name.

JEREMIAH 34:15 (KJV)

Independence is happiness.

SUSAN B. ANTHONY

The most courageous act is still to think for yourself. Aloud.

COCO CHANEL

Independence? That’s middle class blasphemy. We are all dependent on one another, every soul of us on earth.

GEORGE BERNARD SHAW

It’s easy to be independent when you’ve got money. But to be independent when you haven’t got a thing—that’s the Lord’s test.

MAHALIA JACKSON

To find yourself, think for yourself.

SOCRATES

Those who deny freedom to others deserve it not for themselves.

ABRAHAM LINCOLN

Independence is essential for permanent but fatal to immediate success.

SAMUEL BUTLER

Rule your mind, or it will rule you.

HORACE

There is often as much independence in not being led, as in not being driven.

TRYON EDWARDS

Independence ... is loyalty to one’s best self and principles, and this is often disloyalty to the general idols and fetishes.

MARK TWAIN

No one can build his security upon the nobleness of another person.

WILLA CATHER

People have only as much liberty as they have the intelligence to want and the courage to take.

EMMA GOLDMAN

Stand fast therefore in the liberty wherewith Christ hath made us free, and be not entangled again with the yoke of bondage.

GALATIANS 5:1 (KJV)

The essence of independence is to be able to do something for one’s self.

MARIA MONTESSORI

The first of earthly blessings, independence.

EDWARD GIBBON

I am lord of myself, accountable to none.

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