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- Farmer and Channel Seedsman, Cory Tilstra, Luverne, MN



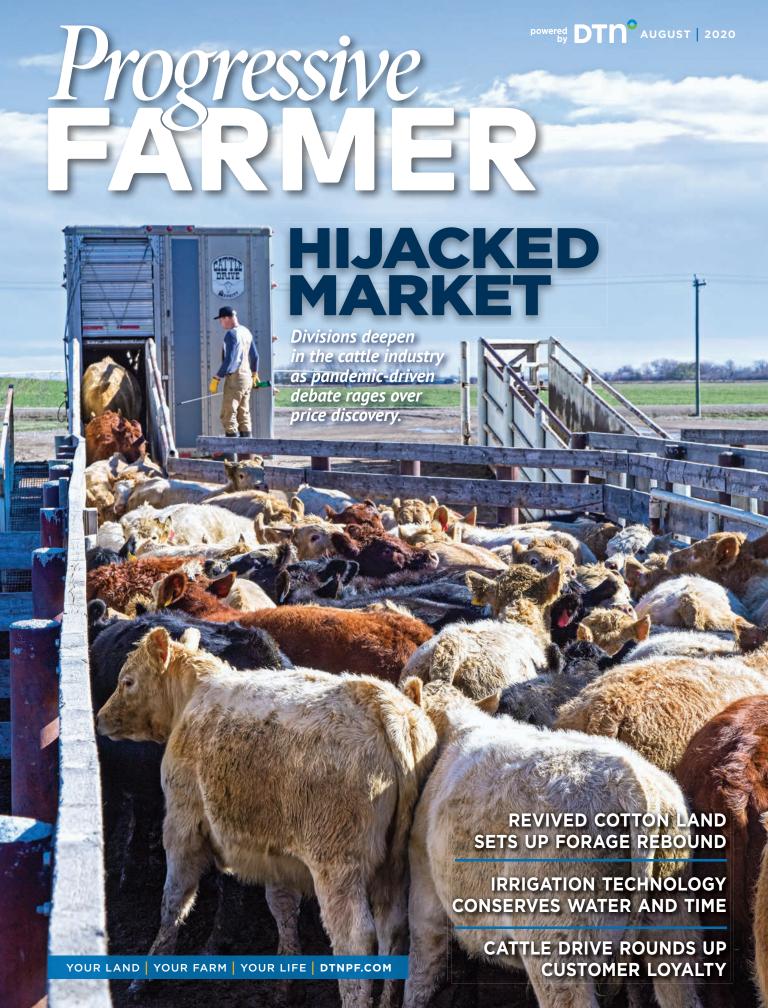
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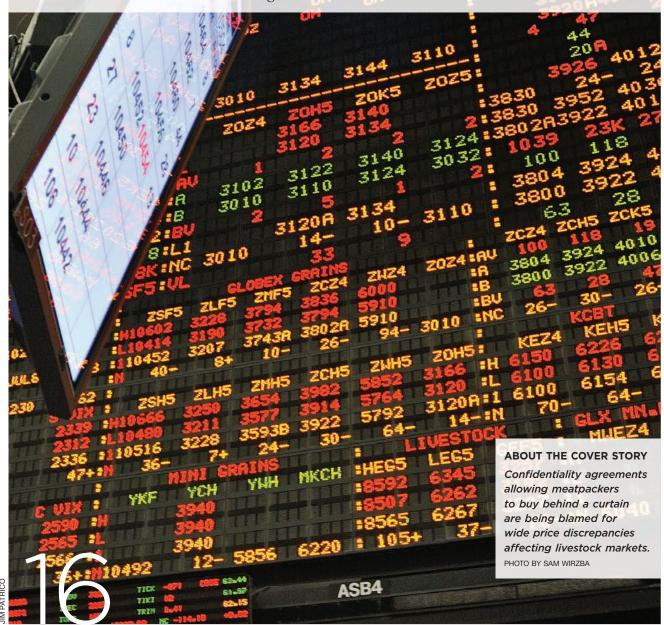


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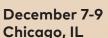
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COVID-19 Alters Foodscape



Gregg Hillyer Editor In Chief

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The recent pandemic has not only

disrupted our lives but how we live. Everyday tasks we took for granted now require extra preparation and precaution. Trips to my local grocery store, for example, now entail a long list of safeguards that include wearing a mask, a one-way entrance/exit, social distancing while pushing a presanitized cart, directional arrows in the aisles and hand sanitizer stations.

The repercussions of COVID-19 go beyond our daily routines. It has broken down segments of the food industry. As the virus began to grip the country in March, shortages of food staples were common. Sick workers idled meat-processing plants. Closed restaurants, hotels and schools wiped out demand. In the aftermath, producers were forced to dump milk, watch unharvested vegetables rot in fields and euthanize livestock. America's bounty was unable to move through normal distribution channels, causing economic havoc for the country's farmers and ranchers.

As a result, our entire food system—from field to fork—is being reevaluated. In a recent survey by the American Farm Bureau Federation, three in five adults (59%) felt the federal government should classify U.S. agriculture as a matter of national security to ensure a stable food supply. More than four in five adults (85%) thought COVID-19 had impacted the food supply chain.

"The results of the survey indicate a growing understanding of how important a stable food supply is to the health and well-being of our nation," says the organization's president Zippy Duvall. "Shortages at grocery stores and other food supply chain shockwaves caused by the pandemic gave many people a new understanding of the crucial role of America's farmers and ranchers, and the importance of their survival through the COVID-19 economic storm."

According to a report on the virus's economic impacts on food and ag markets by the Council for Agricultural Science and Technology,

"These disruptions have exposed critical gaps in our knowledge of how to make the agrifood sector and supply chain more resilient and adaptable to major crises, such as pandemics."

The report pinpoints areas that need to be addressed to counter future shocks in order to move goods from farm to consumer. Two examples:

The nation's food supply chain is built to optimize volume and efficiency. Food flows through two channels: food service (institutions) and retail. When the virus shut down demand from institutions, our rigid supply chain prevented goods normally designated for food service to easily switch over to retail to meet surging demand. The report singles out fresh produce and stresses the need to create a more flexible supply chain with fully interoperable packing lines, greater use of technology and fully fungible transportation systems. Other food goods will require similar changes to enhance adaptability.

> The pandemic challenged the meatprocessing sector like no other supply chain. Large declines in food service activity gave way to huge swings to grocery stores. Then, COVID-19 infected workers, forcing processing plants to close or reduce capacity. Livestock prices plummeted because producers couldn't get animals to market. Consumers saw shortages and higher prices. Calls for change could include a mix of additional automation within plants to reduce dependence on labor, more cold storage capacity or adjustments in the number, size or design of facilities.

Conversations are just beginning on how to tweak and, in some cases, overhaul the nation's foodscape to make it more resilient regardless of unforeseen circumstances. Solutions will lead to long-term changes in how food is produced, packed and shipped while providing farmers and ranchers a more stable marketplace. ///



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Breaking Up Is Hard To Do



Rod Mauszycki

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

- > Read Rod's "Ask the Taxman" column at ABOUT. DTNPF.COM/TAX.
- > You may email Rod at taxman@ dtn.com.

I've had conversations with several

clients recently. Because of the stress and uncertainty, they would like to transition out of farming.

Sometimes, this means transitioning to the next generation, and sometimes, it means selling off inventory/equipment and collecting rent checks. If you farm as a sole proprietor, it's relatively easy. However, in many cases, family members farm together. Farming in a partnership or S corporation may add complexity (and tax) when you transition out. Although this is a very complex topic, I will briefly touch upon four scenarios to illustrate potential issues.

MULTIMEMBER LLC: ONE MEMBER EXITING

In some instances, only one member of an LLC may want to exit. There are multiple ways to structure the exit, including distribution of assets, purchase of LLC interest or redemption of LLC interest. The trap goes back to debt and the dreaded negative capital account. If the exiting member is relieved of debt, he or she may experience forgiveness of debt income.

If the exiting member had a negative capital account, it may trigger unexpected (and substantial) taxable income.

MULTIMEMBER LLC: LIQUIDATION

When liquidating, the LLC may distribute certain assets to members or sell all assets and distribute the proceeds. In some cases, because of debt or inaccurate accounting, the members may be left with a negative capital account. In that case, they must contribute cash to the LLC or pick up phantom income in order to get the negative capital account back to \$0. There also is the issue of liquidating distributions that must be in accordance with capital accounts. Therefore, one member may get more money from liquidating distributions.

S CORP: ONE MEMBER EXITING

S corporations are more restrictive than LLCs and may cause more issues. If there are assets the exiting shareholder wants, the S corp can either sell them to the shareholder or distribute the assets. In either case, the S corp must treat it as a sale of assets at fair market value (however, a loss would not be realized), and shareholders must recognize the gain. Also, remember that in an S corp, there must be proportionate distributions. So, distributions of cash or assets to the exiting shareholder must be closely examined.

S CORP LIQUIDATION

Sometimes, the best solution is to liquidate the S corp and part ways. If liquidation includes distribution of certain assets to shareholders, the distribution is treated as a sale, and gain must be recognized. It is important to liquidate and dissolve the S corp in the same year. That way, if there is any basis remaining, the shareholders could take a capital loss on their tax return to hopefully offset some gain.

I just skimmed the surface and avoided discussing C corp spin or splits. Exiting or liquidating an LLC or S corp is not as easy as most people think. With a little time and planning, your CPA can help you mitigate the tax issues. ///

TOOLS FROM THE PAST

Tied up in knots? Not if you use this device. What is it?



FARMERS ON TWITTER

How do you clean up underneath your dryer? Let the neighbors goats do it for you. @LancePanzier @@



I've been blaming it on the deer (evidence in the background), but I caught another culprit eating at the cotton buffet. @GaFarmer80



Do you ever surprise yourself on things you can and cannot do? Like I'm pretty confident I can clean up Waterhemp in a crop where our options are near zero. But, god forbid I drink out of my coffee cup without spilling down the front of my shirt. @CodyWahlstrom



OMG @SarahTaber_bww



Random lady at a local store: "You're supposed to be wearing a mask." Me: "I'm supposed to be wearing underwear too, vet here we are." @djf510

It's so dry, I just saw a prairie dog holding a "will work for food" sign @CBKimbrell

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Close Watch on La Niña Trend



Bryce Anderson DTN Senior Ag Meteorologist

- > Read Bryce's weather blog at ABOUT.DTNPF. COM/WEATHER.
- > You may email Bryce at bryce. anderson@dtn. com or call 402-399-6419.

At this point in the season, the Pacific

Ocean may have cooled in the eastern equatorial sector enough to reach weak La Niña values. La Niña is the term used to describe the occurrence of the Pacific eastern equatorial waters cooling to at least a half-degree Celsius (nine-tenths of a degree Fahrenheit) below normal. A cooling trend began in the eastern Pacific equatorial waters mid to late spring.

The evolution of this pattern will be interesting to follow. The National Oceanic Atmospheric Administration (NOAA) atmospheric research scientist Emily Becker noted in early summer that a Pacific move to La Niña would follow a period of neutral equatorial Pacific temperatures. "... we have not observed a La Niña developing following a neutral winter (like we just had) in our 1950 to present record," Becker said in a NOAA post on the **climate.gov** website. "Predicting the future based on past cases is very tricky, though, as even small differences can lead to very different outcomes."



CONTINUED DROUGHT

One of the features with the trend toward even a weak La Niña is the prospect of drought continuing in the western half of the Great Plains and into the southwestern U.S. Drought formed during the late winter and spring in southern Colorado and western Kansas. It's not out of the question for the dry area to get larger and east through Kansas, and possibly into western Missouri by late summer. The Northern Plains comprise another area that is more at risk for drying out through the balance of this season as rainfall becomes more scattered in coverage and intensity.

SIMILAR TREND

A similar Pacific Ocean cooling trend to La Niña occurred in 2010 following a spring featuring overall fast-paced planting of row crops. U.S. crop weather turned drier and hotter during the last half of the season. Corn yields eventually showed a 7% decline from a then-national record of 164.7 bushels per acre in 2009 to 152.8 bushels per acre in 2010.

The Pacific Ocean cooled off notably at that time; in fact, a La Niña formed that featured the most intense conditions by some measurements in more than 50 years. That La Niña stayed with us for a long time, through the entire crop year of 2011 and even into the beginning of the very dry and hot year of 2012. Again, this feature does not appear to be that intense.

HARVEST BENEFIT

There is one feature that occurs in the fall season when La Niña forms that may be viewed as a favorable detail, and that has to do with harvest weather. Drier conditions in the fall season would likely be more favorable for harvest. Such a pattern would likely be welcome in many operations after a wet harvest in the past two seasons. There are many effects as the Pacific goes through its various phases, and the trend toward La Niña will continue garnering close attention. ///

Will China Make It?

In mid-June, national news outlets

reported that Chinese officials instructed state-owned grain companies to ramp up agricultural purchases from the U.S. in a bid to fulfill their \$36.5-billion commitment under Phase 1 of a trade deal.

Seth Meyer, associate director of the University of Missouri's Food and Agricultural Policy Research Institute, says sales to China shifted counterseasonally higher in early summer, a potential indicator of their intentions. With the traditional postharvest purchasing peak still to come, "we're putting more and more pressure on that last quarter to do gangbusters sales and shipments to meet the Phase 1 agreement with China," he says.

With levels of reported sales and inspections far off the pace needed to meet that lofty goal, China will be hard-pressed to make up ground, especially in the wake of

COVID-19 disruptions in the supply chain.

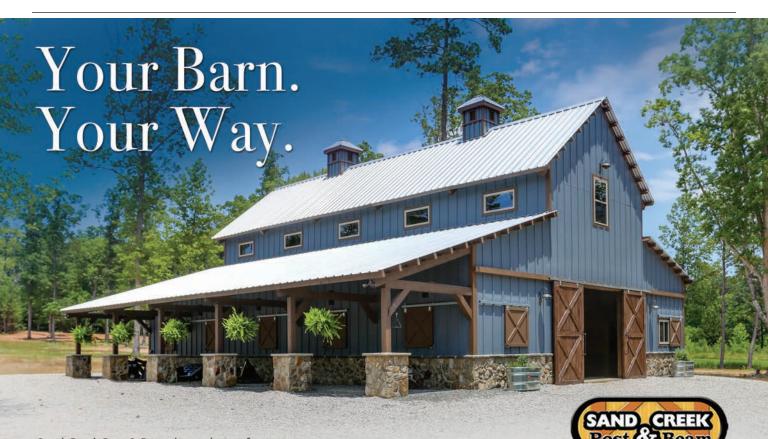
What's on the shopping list? Soybeans will likely make up a large share of purchases, perhaps 60% or so, Meyer says. China could make more corn purchases if damage from the fall armyworm in its northeastern provinces puts a dent in supply. But, Meyer cautions, any upside could be limited by China's tariff rate quota. Sorghum is likely to be the more popular corn equivalent with dried distillers grains mostly priced out of the equation. Pork, ethanol and a spate of other commodities could come along for the ride.

It's important to remember China inserted a "commercial considerations" clause into the agreement that gives it an out if it doesn't live up to its promises. So, as harvest approaches, I hope China at least gives it the old college try, but I won't be surprised if Beijing's actions fall short of its words. ///



Katie Dehlinger DTN Farm Business Editor

- > Read Katie's business blog at ABOUT.DTNPF. COM/BUSINESS.
- > You may email Katie at **katie**. **dehlinger@dtn**. **com**, or visit @KatieD_DTN on Twitter.



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Back to the Weather



Todd Hultman DTN Lead Analyst

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Given how the year has gone, it's

been difficult to talk about grain markets without the conversation being dominated by COVID-19. August, however, is the time of year for crop tours and yield estimates. It is time to turn the conversation back to the effect of the weather.

As I write this, I haven't seen USDA's "Acreage" report yet, and so it's a timing challenge to talk about the weather to readers in August. Fortunately, Bryce Anderson and DTN's weather services are available at **dtnpf.com** to fill in the gaps and keep readers appraised on a daily basis.

For now, it's helpful to remind ourselves just how important the stretch of June to July weather is for 2020 crops. I am not normally a fan of trying to estimate yields based on USDA crop ratings, as the correlation between the two is extremely loose. However, if we accept the loose connection between the two, USDA crop ratings do offer helpful guidance.

CROP RATINGS

Almost all good-to-excellent (G/E) row-crop ratings start at a high level in late May to early June. In 2020, the first G/E rating for

corn was 70%, roughly the center of where the past nine years of ratings have begun.

From the initial rating to late July is where the important separation between crop years takes place, and ratings typically decline through summer. By the time you read this in August, a G/E rating of 70% or higher for corn indicates a strong chance we're looking at a corn crop with nearrecord or record yields.

G/E ratings in the mid-50s or 60s in late July typically suggest a yield near or possibly below trend. The year 2017 kept us humble with a 61% G/E rating resulting in a higherthan-expected corn crop yield of 176.6 bushels per acre.

Of course, G/E ratings can go below 50% as they did during the drought of 2012. Ratings that low indicate serious trouble.

Crop ratings for soybeans are much the same. Even though the important filling period for soybeans is in August, and ratings between different years can keep diverging as late as September, the earlier start from early June to late July is still a critical period for crop development.

In 2020, the first G/E rating for soybeans

landed at 70%—within the normal range. For soybeans, a G/E rating of 70% or higher by the end of July will typically earn a high, and possibly record, yield by fall.

G/E ratings in the 60s or upper 50s are more normal for soybeans at the end of July and can still deliver a good national yield. It takes ratings in the low 50s or below to increase the potential for higher prices.

Weather can still damage soybeans after July, but the information above should be a pretty good guide for estimating yields in 2020. After the unusual conditions of 2019 and the global pandemic in early 2020, it is somewhat reassuring to know crops still need good weather. ///



Because We Prayed

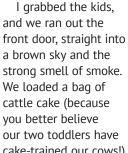
BY Tiffany Dowell Lashmet

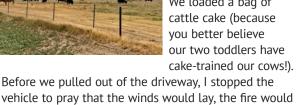
When the wind was blowing at 60-plus mph at 7 a.m.,

I knew we were in for a long day. I instantly thought of that awful March a few years ago when fires came to the Texas Panhandle, and three cattlemen and women lost their lives. I tried to put those menacing memories out of my mind and go on with my day.

So, that afternoon when my husband called to tell me there was a fire headed for our pasture and that we needed to move the cows, it was the last thing I

wanted to hear.





vehicle to pray that the winds would lay, the fire would stop and all of the people and animals would be safe. The kids said an "amen" in unison. I honestly can't remember if I said it or not.

After that, the chaos began. In the end, some 2,400 acres of rangeland had burned. We were fortunate in that the destruction somehow missed our place. The wind shifted, and the fire turned about 100 yards from our fence. Everyone—ranchers, volunteer firemen and livestock—were protected, and no lives were lost.

Several days later, we loaded up to go check cows. When we arrived, and my daughter saw the neighbor's charred grass pasture, she asked, "Mama, did any cows die in the fire?" My son instantly responded, "No, because we prayed."

It was such a simple reminder of the beauty of childlike faith. It also made me wonder, what else in my life has been blessed by such a simple answer ... because we prayed?



Tiffany Dowell Lashmet balances ranch life, children and a career in ag law from the Texas Panhandle. Follow her blog at alwaysafarmkid. com and her on Instagram at alwaysafarmkid and on Twitter @TiffDowell.

No Fair Decision

BY Katie Pratt



The county fair legacy runs deep for my family. My grandmothers were 4-H Club leaders. My grandpa's name is engraved on a plague at the entrance of our county fairgrounds. My mom decorated our stalls in the livestock barns and managed fair food, show clothes and judging times for three kids. When I came home from college, I took my dad's spot on the fair board.

My kids arrived at the fair as babies, bouncing on the knee of whomever stopped in the fair office. Today, they manage their projects and other tasks as unofficial fair board members. My husband and I both serve as members of our fair association, making fair management a family project. For us, summer is the county fair.

So, when our fair association made the difficult decision to cancel this year's event entirely, we felt defeated and braced for the fallout. On social media, volunteer fair boards were bearing the brunt of quarantine burnout. People were angry that beloved summer events were falling to COVID-19 circumstances.

We knew senior 4-H members wouldn't walk in the show ring one last time. We knew tractor-pull fans would miss the excitement trackside. The economic loss experienced by our fair vendors is devastating.

With each COVID-19 cancellation—the school musical, school year, summer softball, town festivals-I've said to my family, "If this is the challenge God has given us, then He hasn't truly challenged us." We've let that guide our responses as the disappointments roll in.

As more traditions surrender or modify to fit the new normal, remember to be kind. Thankfully, our fair board received tremendous support from the community and received proceeds from two spontaneous fund-raisers. Kindness takes the sting out of unpopular decisions and fuels volunteers who are building on the legacy left by past generations while crafting the future. In our case, we see this not as defeat but as a way to plan for decades of county fairs to come.



Katie Pratt writes, tweets, farms and "likes" agriculture from north-central Illinois. Find her blog at theillinoisfarmgirl.com, and follow her on Twitter @KatiePratt4.



Soil Born Again

Couple resurrects cotton ground that was a testimony to mismanagement to provide nearly "year-round green" for their cows.



built fences and established Tifton 44 and Russell bermudagrass pastures. "Having the manure from the livestock was huge in our rebuilding process," Terry says. "We not only started to improve our soil organic matter levels, but we could supply enough fertility to start to grow something."

The Chandlers started a 60-head cow herd and put in underground lines to pump effluent with a traveling gun onto the pastures. "Things improved, but we were working ourselves silly," he says. Terry found answers to his labor woes when he attended a Georgia Grazing Lands Conservation Coalition meeting in 1992 and was introduced to management-intensive grazing.

y the time Terry and Deborah Chandler bought their 200-acre Georgia farm in 1987, it was largely a spent, unproductive, brushcovered testimony to mismanagement. The Soil Conservation Service technicians of the day had been using the land as a bad example in teaching clinics.

"When we took over, the land was a wreck," Terry explains. "It had potential because there was only one way to go."

Terry Chandler, who was using his agronomy degree working for Seaboard Farms at the time, and Deborah Chandler, who holds a degree in plant pathology, saw a future for the farm, near Athens. "The land was in foreclosure and had been vacant for four years," Terry recalls. It was typical of farms that had been in continuous cotton production since the 1800s. The land once featured 12 to 14 inches of Madison/Davis clay loam topsoil but had been reduced to mainly red clay. Soil organic matter (OM) levels were under 1%, and fertility levels were nearly nonexistent. Still, there were hog-finishing facilities on the place, and the Chandlers, who also put up two pullet houses right after they took possession, saw an opportunity for a steady livestock income and a source of manure to rebuild the farm.

By finishing hogs and profiting from the poultry, the couple began to make financial progress. They

EYE-OPENING

"The fundamentals they taught us seemed sound, so we set up three watering points and created 15 5-acre paddocks arranged in a wagon wheel fashion with single-strand Polywire," he explains. "What we saw from that single change in management was eveopening. The improvements were almost immediately visible in forage response, animal performance and forage utilization."

After another grazing school and work with the Natural Resources Conservation Service, Terry put out 130 acres in paddocks with ample watering points for grazing flexibility. "We committed to manage the whole place with intensive rotational grazing and improve our forages to as close to 'year-round green' as we could," he explains.

The result is 25 years of steadily improved soil health and fertility levels, pasture carrying capacity and animal body condition. Through the steady use of cover-crop mixes and interseeding the bermudagrass pastures, Terry provides his cattle grazing nearly 300 days per year. He manages 25 paddocks of roughly 5 acres each, including nine 10-acre cells that can be divided in half, and stocks them at 75,000 to 100,000 pounds of animals per acre. "In the spring, we push the stocking rate to nearly 200,000 pounds, but throughout the year, we graze for forage height, and that means sometimes moving the cattle every

12 to 24 hours. During peak forage production, the herd can stay in a paddock three to four days," he says.

The Chandler farm is home to 100 Angus-Simmental cows that wean 650-pound or heavier calves per year, all backgrounded to 800 pounds. The pasture also hosts 50 to 100 stocker calves.

Meanwhile, as he improved his farm's production component, soil organic matter levels in Chandler's pastures have gone through the roof, ranging from 4–7% with some isolated samples showing 10%

at times in annual soil samples. With the increased OM levels water percolation improves. Some soils can absorb 12–20 inches of rainfall per hour.

There is a nitrogen benefit. A percentage point of OM contains about 20 units of nitrogen (N). "With 5% OM, that's 100 pounds of N I don't have to buy," he says.

Another economic benefit of intensive rotational grazing was the elimination of most herbicide applications. "Rotation grazing causes a shift in pasture species. Weeds we once fought become forage to be consumed," Chandler says. "We save between \$4,000



Terry Chandler found that as production rose on his Georgia farm, soil fertility and pasture carrying capacity also improved.

and \$5,000 per year on weed control. Spot treatments are used for thistles and horse nettles."

Chandler now grazes his Bermuda from mid-May through October. On the last rotation in September, he uses an old 7-foot Tye drill to inter-seed a cool-season annual mix of cereal rye, ryegrass, vetch, daikon radish, crimson

and other clover species. The stockpiled Bermuda grass takes Chandler into November. Fescue provides forage until the depth of winter. By the end of February Chandler's cattle are moving into the cool season annuals on the Bermuda pastures—where they will remain as the warm season forage begins to grow in April and May.

"We're striving for plant diversity, but also diversity across species types," he says. "We want the different plant architectures and different rooting depths to continue our reclamation project." ///



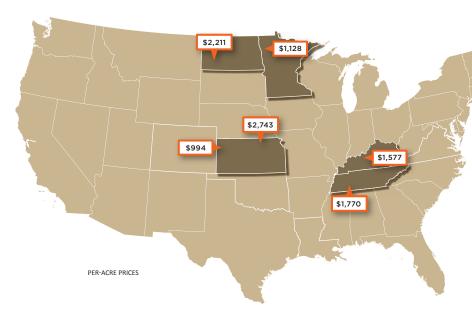
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Recent Farmland Sales



KANSAS, Sherman County. Two tracts, one grassland and one CRP acreage, sold at auction for \$636,000. The tracts, which totaled 640 acres. brought an average price per acre ranging from \$900 to \$1,200. Average across the whole property was \$994. The CRP acres totaled 199, with a contract set to expire at the end of September 2020. The pasture ground is described as well-watered with a windmill in the south-central part of the property and a submersible well with a ³/₄-mile pipeline in the westcentral area. The property is subject to a pipeline easement. Contact: Donald L. Hazlett. Farm and Ranch Realty Inc.; info@frrmail.com; 800-247-7863

www.farmandranchrealty.com

Washington County. Three tracts of farmland totaling 237 acres sold at auction for \$650,000. Average price across the farm was \$2,743 per acre. The farm included cropland, hardwood bottoms and hay ground. It held bases in wheat, grain sorghum and soybeans. A home was included on the property. Contact: Jeff Dankenbring, jeff@midwestlandandhome.com, or Mark

Uhlik, mark@midwestlandandhome. com, Midwest Land and Home; 785-325-2740

www.midwestlandandhome.com

kentucky, Ohio County. A 317-acre property with hunting, recreational and marketable timber ground sold for \$500,000. Timber totaled 287 acres, cropland/food plots 30 acres. There was a 1-acre lake on the property, described as excellent hunting ground with a gated entrance. Average price per acre was \$1,577. Contact: Joseph Mills, Kurtz Auction and Realty; jmills@kurtzauction.com; 270-926-8553

www.kurtzauction.com

MINNESOTA, Marshall County. A

1,757-acre farm sold in eight parcels for a total price of \$1.98 million.

Average per-acre prices ranged from \$1,070 to \$1,200, with an average price across the entire property of \$1,128. The property was a mix of cropland—mostly with bases in wheat, oats and barley—mature trees and hunting ground. Part of the land had been in the CRP program, but that ground came out and was farmed in

2019. *Contact:* Lindsey Brown, Ibrown@pifers.com, Pifer's Land Auctions; 877-700-4099 www.pifers.com

NORTH DAKOTA, Stark County.

Crop and pastureland totaling 792 acres sold at auction for \$1.75 million. The acreage was auctioned in four parcels, with prices ranging from \$2,000 to \$2,300 per acre. Total average per-acre price across the property was \$2,211. Cropland in this sale came with weighted Soil Productivity Index (SPI) levels by tract ranging from 40.4 to 74.5. All parcels had base acres in wheat, corn and lentils. *Contact:* Kevin Pifer, kpifer@pifers.com; Pifer's Land Auctions; 877-700-4099

TENNESSEE, Hardin County. Seven

www.pifers.com

tracts on Horse Creek totaling 312 acres sold at auction for \$552.090. The price included a 10% buyer's premium. Average price across the property came to \$1,770 per acre. The property is about 10 miles from Pickwick Lake and was offered for sale for the first time in generations. It featured paved and creek frontage. The land was described as ideal for cattle and horses, and included hardwood timber and hunting areas. All homesites had electricity available to them. Contact: Will McLemore, McLemore Auction Co.: will@ mclemoreauction.com; 615-636-9602

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

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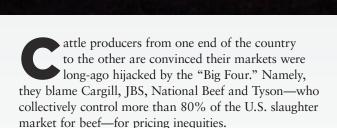
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Internal testing of X9 1100 Combine. ** Internal comparison between X9 1100 and X790 Combines, based on Jelet condition per unit harvested. I. Semi-trailer trucks with 993-bushel capacity. Pre-production model shown. Specifications and design subject to change.



HIJACKED MARKET

Division deepens in the cattle industry as a pandemic-driven debate rages over how to fix a broken price-discovery system.



Confidentiality agreements these buyers operate under are allegedly responsible for thin cash markets and what many cattlemen believe are absurdly low prices at the farm level. Simply put, as COVID-19 drove up beef demand and sent prices received by packers soaring, cattle producers struggled to understand why they were losing money. That struggle continues.

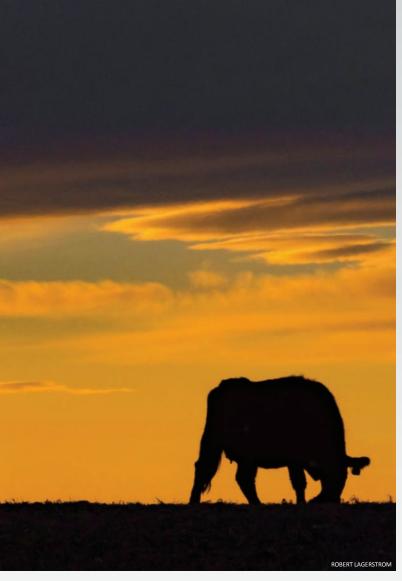
The visuals have been damning. Empty meat cases at the grocery store and packer margins nearly \$600 per head higher mid-March than they had been a few short weeks prior poured gasoline on a long-burning fire of discontent over price reporting.

Meatpackers blamed consumer panic buying, restaurant closures, plant shutdowns and illnesses among plant workers for a supply bottleneck that quickly pushed up prices. A look at the numbers shows production

dropped precipitously in a short period of time. For the week of Feb. 22, 2020, prior to nationwide shutdowns, red meat production in the U.S. was estimated at 1,087.9 million pounds. During the last week of May 2020, beef production was at 428.6 million pounds.

In late January when the U.S. Health and Human Services declared COVID-19 a public health emergency, Choice boxed beef cutout value was \$215.32 per cwt. By mid-May, that price was reported at \$475.39 per cwt—a \$260.07 per cwt increase. Producers, however, during the first quarter of the year saw prices fall for feeder cattle. By June, many were essentially forced to hold calves longer as sale barn reports pointed toward a range of \$135 to \$145 per cwt on 600-plus pound calves. The futures market looking to August was an anemic \$95.6 to \$96.9 per cwt on live cattle as reported by the Chicago Mercantile Exchange (CME).

Veteran cattle producer Bill Yancey sells about 140 calves each year. He is based at Prairie Grove, Arkansas, and often sells at the Joplin regional sales barn. He notes that regardless of what feedyards may or may not need to buy, calf prices always follow futures.



"If the futures are up, my calves are up. If they're down, so are my calves. CME has a lot more to do with my price than anything else. It seems that once the buyers that day see the CME is down, we don't have any chance of running prices up, and we have to take what they will give us. When you consider the fact that the CME doesn't have much to base its price on anymore, I feel we aren't always getting a fair deal."

As a result, Yancey says he is increasing his use of sales by video auction and is maximizing values on his calf crop with NHTC certification (Non-Hormone Treated Cattle). He still thinks, though, he and others would benefit from more price discovery.

"Packers are making money hand over fist, and our side of the industry is shrinking. I guess I'd be for a mandate to force them to buy a percentage of cattle on the cash market, but the devil is in the details. I don't like government intervention, but at this point, who is going to look out for the cow/calf producer?"

DTN livestock analyst ShayLe Stewart agrees with Yancey. She comes at the issue from the perspective of both a cow/calf producer and a professional market

analyst. She lives and raises SimAngus cattle with her husband, Jimmy, in Cody, Wyoming. Stewart has long held the position there's an unfair advantage when feeder cattle sell in a competitive market yet fat cattle sell in what is essentially a noncompetitive market. "We can't have an industry that functions properly when different segments are competing and achieving highs and lows, while others due to size and confidentiality clauses have found a way to buy behind a curtain."

Stewart notes the degree of discrepancy depends on the region in which a producer sells cattle. Northern producers, for example, see more participation in cash markets (more than 50%), while in the South, as little as 7% of sales are typically in cash trades.

A WASHINGTON SOLUTION

Clamping down on meatpackers and increasing competition and transparency when it comes to price reporting has been on Sen. Charles Grassley's (R-Iowa) bucket list for years. He first introduced legislation in 2002 to bring more transparency to cattle pricing. On May 12, 2020, he once again introduced legislation with this same goal.

This bill, cosponsored by Sens. Jon Tester (D-Mont.); Tina Smith (D-Minn.); Joni Ernst (R-Iowa); Mike Rounds (R-S.D.); Cindy Hyde-Smith (R-Miss.); and Steve Daines (R-Mont.), aims to amend the Agricultural Marketing Act (AMA), which is up for renewal in September.

While the bill and its goals are not new, the timing may be perfect.

In summary, as it stood at press time, the bill requires packers to acquire no less than 50% of the cattle they will process within 14 days through spot-market cash sales from nonaffiliated producers. The sales agreement would be entered into "under circumstances in which a reasonable competitive bidding opportunity exists."

The regulation would not apply to dairy-bred, dairybred cross or beef animals more than 30 months of age, or a foreign-born animal. Packers who own only one processing plant are exempt under the requirements.

Some cattle market analysts have insisted what the industry has seen this year is a cattle market that works, and producers have to take the good with the bad. Others believe it's a broken system. A lot of views are on the table, any of which could impact cattle markets for years to come. The time has come for cattle producers to thoughtfully consider these opinions, weighing their options and boldly speaking out about how they believe such proposed changes would impact their home operations. The future of the cattle industry is at stake. >

USCA: CLARIFY PRICE REPORTING



Senior policy analyst for the United

States Cattlemen's Association (USCA), Jess Peterson, sees a need to clarify how existing price reporting rules and confidentiality standards are working.

USCA is a Montana-based organization with policy headquarters in Washington, D.C.

Peterson says: "The Livestock Mandatory Reporting program will expire Sept. 20, 2020. As Congress and industry stakeholders work together on needed changes to the program in the months ahead, we expect this [Grassley] bill will play a large role in our conversations."

Peterson adds USCA has made price reporting a key emphasis for more than 10 years.

"When we look at the fundamentals of the cattle market, there are just screaming differences in boxed beef prices and what producers are being paid," Peterson explains. "Let's look at this and ensure the fundamentals are better aligned for the industry. You have to have a certain minimal number of

cash trades to base a market on and to reflect a true value for cattle. We don't have that right now."

Peterson says price reporting modifications are possible every five years, so he isn't looking at the Grassley bill as a piece of stand-alone legislation that, once put into place, would never be touched again. There would be opportunities to refine it as needed to ensure it is working as it should for everyone.

It's especially important, he adds, that cattle contracts become less challenging for those taking long positions in the market. Cash market transparency is key to accomplishing this. "The CME [Chicago Mercantile Exchange] has tried to work with us, and I know they are actively looking for solutions. CME wants to make sure the cattle contract is working properly," he says.

"The bottom line is we can't get this done, because we have self-serving actors undercutting the cattle market. If this were happening on Wall Street or in the banking or credit sectors, it would have already been addressed."

NCBA: NO ON GRASSLEY BILL

South Dakota rancher Todd Wilkinson, policy division chair for the National Cattlemen's Beef Association (NCBA), says what the industry doesn't need right now is a government mandate.

"Our biggest concern is not the impact on the packer but on the producer," he stresses. "I'm in an area where



I deal with the negotiated cash trade daily for our family feeding operation. We are probably the highest in negotiated trades in the country. But, if there is a government mandate that the big packers have to buy 50% of their negotiated trades on a cash basis, we are concerned producers using formula

pricing may face a situation where the packer can't give you a bid because he's maxed out on the amount of formula trade purchases he can make for the period, and you have to go to the cash basis."

Wilkinson supports more cash trade, but at the same time, he doesn't want to force producers to move away from formula or grid trade.

"I think we would be taking away options," he insists. "The seller would be limited on how they could sell, and that could be really disastrous."

A better long-term solution to thin cash markets, Wilkinson believes, is encouraging more regional packers with increased capacity. This, he says, should be the goal as opposed to a government mandate.

R-CALF: YES TO CHANGE

Ranchers-Cattlemen Action Legal Fund

United Stockgrowers of America, known in cattle circles as R-CALF, is standing firmly behind the Grassley proposal.



Bill Bullard, chief executive officer of the group that built a reputation on support for mandatory country-of-origin labeling, says they have wanted to see Grassley's bill adopted since 2002.

"We worked with Senator Grassley to introduce the first version of this legislation," Bullard says. "We recognized back then the meatpackers were systematically shifting large volumes of cattle out of the cash market and placing them into their captive supplies where no cash discovery occurs."

Bullard believes the cattle industry has a dysfunctional market, and he calls the current bill "triage" to preserve the integrity of cash markets. He says the COVID-19 pandemic put a floodlight on how broken U.S. cattle markets are.

Asked if a less drastic fix is possible, such as elimination of confidentiality agreements regarding prices packers pay, Bullard says it won't be enough to solve the market's problems.

"We've argued against those guidelines, which were put into place shortly after the livestock reporting act was passed," he says. "Today, Colorado, thanks to these rules, doesn't even report prices due to that overly restrictive requirement. But, we have gone too far. Just eliminating confidentiality agreements won't restore lost bargaining power between producers and meatpackers."

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- ¹ Results based on actual on-farm comparative demonstration. Individual herd results may vary. Data on file at Boehringer Ingelheim.
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³ DECTOMAX product label

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CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

LONGRANGE, when administered at the recommended dose volume of 1 mL per 110 lb (50 kg) body weight, is effective in the treatment and control of the following internal and external parasites of cattle

Gastrointestinal Roundworms	Lungworms
Bunostomum phlebotomum - Adults and L4	Dictyocaulus viviparus — Adults
Cooperia oncophora — Adults and L ₄	
Cooperia punctata - Adults and L ₄	
Cooperia surnabada – Adults and L ₄	Grubs
Haemonchus placei – Adults	Hypoderma bovis
Oesophagostomum radiatum – Adults	
Ostertagia lyrata – Adults	Mites
Ostertagia ostertagi - Adults, L4 and inhibited L4	Sarcoptes scabiei var. bovis
Trichostrongylus axei – Adults and L ₄	
Trichostrongylus colubriformis – Adults	

Parasites	Durations of Persistent Effectiveness
Gastrointestinal Roundworms	
Bunostomum phlebotomum	150 days
Cooperia oncophora	100 days
Cooperia punctata	100 days
Haemonchus placei	120 days
Oesophagostomum radiatum	120 days
Ostertagia lyrata	120 days
Ostertagia ostertagi	120 days
Trichostrongylus axei	100 days
Lungworms	
Dictyocaulus viviparus	150 days

DOSAGE AND ADMINISTRATION

(eprinomectin) should be given only by subcutaneou injection in front of the shoulder at the recommended dosage level of 1 mg eprinomectin per kg body weight (1 mL per 110 lb body weight). Each mL of LONGRANGE contains 50 mg of eprinomectin, sufficient to treat 110 lb (50 kg) body weight. Divide doses greater than 10 mL between two injection sites to reduce occasional discomfort or site reaction

Do not underdose. Ensure each animal receives a complete dose based on a current body weight. Underdosing may result in ineffective treatment, and encourage the development of parasite resistance

LONGRANGE is to be given subcutaneously only. Animals should be appropriately restrained to achieve the proper route of administration. Inject under the loose skin in front of the shoulder (see illustration) using a 16 or 18 gauge, ½ to ¾ inch needle.

Sanitize the injection site by applying a suitable disinfectant. Clean, properly disinfected needles should be used to reduce the potential for injection site infections.

Body Weight (lb)	Dose Volume (mL)
110	1
220	2
330	3
440	4
550	5
660	6
770	7
880	8
990	9
1100	10



Withdrawal Periods and Residue Warnings

Animals intended for human consumption must not be slaughtered within 48 days of the last treatment This drug product is not approved for use in female dairy cattle 20 months of age or older, including dry dair cows. Use in these cattle may cause drug residues in milk and/or in calves born to these cows. A withd period has not been established for pre-ruminating calves. Do not use in calves to be processed for veal.

Animal Safety Warnings and Precautions

The product is likely to cause tissue damage at the site of injection, including possible granulomas and necrosis. These reactions have disappeared without treatment. Local tissue reaction may result in trim loss of edible tissue at slaughter. Observe cattle for injection site reactions. If injection site reactions are suspected, consult your veterinarian, This product is not for intravenous or intramuscular use. Protect product from light. LONGRANGE® (eprinomectin) has been developed specifically for use in cattle only. This product should not be used in other animal species.

When to Treat Cattle with Grubs

LONGRANGE effectively controls all stages of cattle grubs. However, proper timing of treatment is important. For the most effective results, cattle should be treated as soon as possible after the end of the heel fly (warble fly) season.

Environmental Hazards

Not for use in cattle managed in feedlots or under intensive rotational grazing because the environmental impact has not been evaluated for these scenarios

Other Warnings: Parasite resistance may develop to any dewormer, and has been reported for most classes of dewormers

Treatment with a dewormer used in conjunction with parasite management practices appropriate to the geographic area and the animal(s) to be treated may slow the development of parasite resistance

Fecal examinations or other diagnostic tests and parasite management history should be used to determine if the product is appropriate for the herd/flock, prior to the use of any dewormer. Following the use of any dewormer, effectiveness of treatment should be monitored (for example, with the use of a fecal egg count reduction test or another appropriate method).

A decrease in a drug's effectiveness over time as calculated by fecal egg count reduction tests may indicate the development of resistance to the dewormer administered. Your parasite management plan should be adjusted accordingly based on regular monitoring.

Macrocyclic lactones provide prolonged drug exposure that may increase selection pressure for resistant parasites. This effect may be more pronounced in extended-release formulations.

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Clinical studies have demonstrated the wide margin of safety of LONGRANGE® (eprinomectin). Overdosing at 3 to 5 Limids vauce-more delinionated use the linight to sarely to troubstower. Perprisonates of the codes are a times the recommended dose resulted in a statistically significant reduction in average weight gain when compared to the group tested at label dose. Freatment-related lesions observed in soft cattle administrated the product included swelling, hyperemia, or necrosis in the subcuraeous tissue of the skin. The administration of LONGRANGE at 3 times the recommended therapeutic dose had no adverse reproductive effects on beef cows at all stages of breeding or pregnancy or on their calves

Not for use in bulls, as reproductive safety testing has not been conducted in males intended for breeding or actively breeding. Not for use in calves less than 3 months of age because safety testing has not been conducted in calves less than 3 months of age.

Store at 77° F (25° C) with excursions between 59° and 86° F (15° and 30° C). Protect from light.

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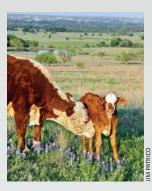
YOUR FARM /// COVER STORY

COLORADO ECONOMIST SETS THE RECORD STRAIGHT

Stephen Koontz has gotten a lot of recent attention

about a study he did in 2007 as lead economist on a USDA Grain Inspection, Packers and Stockyards Administration project. His work looked at price discovery and alternative marketing agreements (AMA) in the cattle business.

Supporters of Sen. Charles Grassley's cash market mandate plan used Koontz's work to bolster their position. But, the agricultural economist, based at Colorado State University, wrote a public letter to the National Cattlemen's Beef Association stating he is not in favor of a plan to mandate packers buy a



percentage of cattle on the cash market. "My work does not recommend, and I do not support, a mandate of a given percentage cash trade."

In response to questions from *Progressive Farmer*, Koontz elaborates on his position and his letter. Most importantly, he wants producers to know he believes such a mandate will only increase operation costs for both packers and feeders.

"Suppose the mandate passes. It could easily increase packing costs \$10 per head and cattle feeding costs \$25 per head," he explains. "If a packer has \$10 higher costs, will their fed cattle bid be \$10 less? If the feeder has \$25 higher costs, will their cattle bid be \$25 less?"

Koontz believes the cow/calf operator would easily be looking at \$35 less under such a mandate. And, he stresses this is not him just picking numbers out of the air.

"We have published research that says it's likely \$10 for packers and \$25 for feeders will be the cost to adopt this system," he says. "Would \$35 less put some cow/calf operations out of business? This policy costs the cow/calf industry billions and billions quickly, and it's a cost that won't go away."

Koontz concludes this proposed policy is something that has been pulled off the shelf as a solution to bad and unforeseeable market events with no research to support it. The only winners, he adds, aside from politicians and those in the industry pushing their agendas, will be cattle feeders in the Upper Midwest.

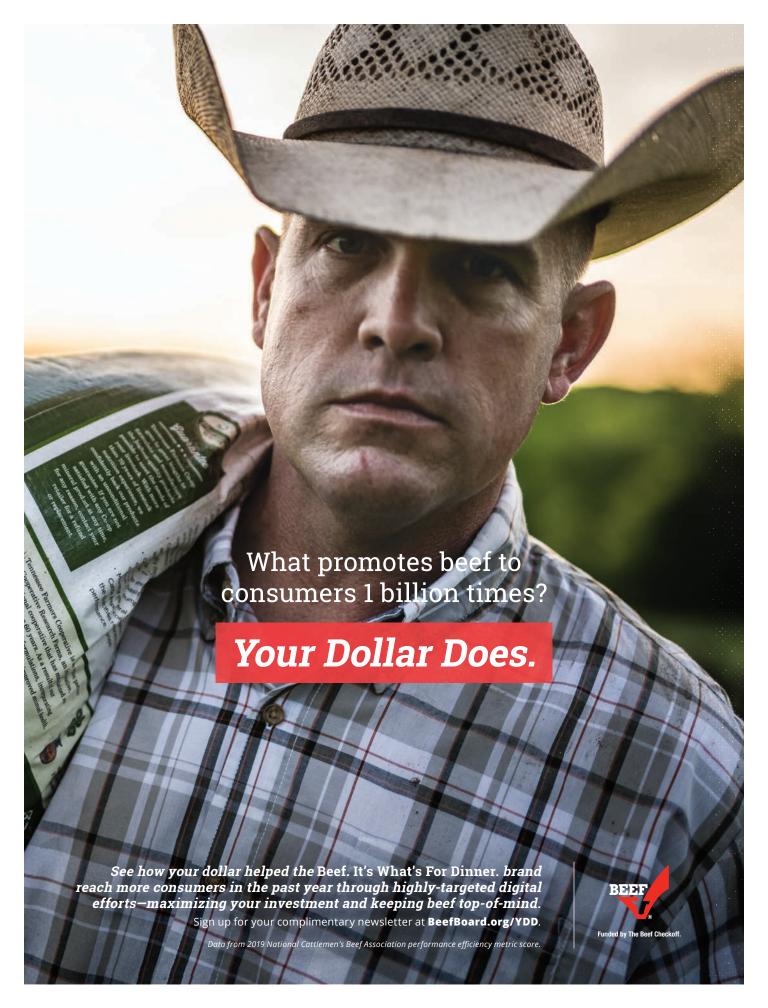
"This requirement is really going to hurt the Southern Plains feeding and packing industries, and the cow/calf folks who supply that system."

David Anderson, Texas A&M Extension economist, says from his perspective, while the cattle market has gone too far in terms of not having enough cash trades reported, it didn't happen overnight.

"This has been a long evolution, as we've gone to more formula-priced cattle," he explains. "There are plenty of formulas with premiums and discounts today for quality, and thanks to that, we've boosted the percent of Choice and Prime we are delivering to our consumers."

Anderson doesn't think a mandated buying policy for packers is going to help, noting more price discovery for cattle traded in a negotiated process doesn't necessarily mean producers will get higher prices. The two, he stresses, are not connected. He also struggles with the idea of a mandate.

"For the most part in America, we don't tell people how they have to buy something. We are overlooking the fact that there are advantages to buyers and to sellers in grid pricing, and there are alternatives to negotiating a fed market. If we move in a different direction from where the market has moved us, we might actually impose more costs on feeders and packers." >



IS BLOCKCHAIN THE ANSWER?

There are ways to have more price reporting without a government mandate or adding costs to cattle procurement. Known simply as "blockchain technology," many leaders in the cattle industry believe it's a viable option today.

Veteran Texas cattleman Bill O'Brien describes blockchain as "a public ledger of all transactions that are executed in a particular market." He believes the industry's focus on the Grassley bill is misplaced, and that it could lead to more confidentiality around pricing.

"People will figure out all kinds of ways to game the system, and pretty soon, we will find we've not accomplished anything except create an environment where there are a bunch of subdeals, and no one knows what anyone is paying," he says.

O'Brien, owner and manager of Texas Beef, based at Amarillo, markets more than 200,000 head of cattle each year. His ties to the cattle business run deep, going back to the late 1800s, when his grandfather moved to the Texas Panhandle from Missouri.

He recalls in the early days of commercial cattle feeding, the industry started selling everything FOB (Free on Board) from the feedyard for seven-day delivery. All the packers would bid, and that was it. Today, there are many more ways to sell cattle,

but O'Brien says few are being properly reported.

"We're selling on negotiated grids, live FOB, delivered, basis futures, formulas, the list goes on. We've got a lot of ways to sell cattle. The problem



is that mandatory price reporters simply don't know how to parse all those transactions into an understandable form. We are using arcane reporting methods."

With blockchain, O'Brien says the cattle industry would not have to rely on mandatory price reporting. A longtime proponent of the technology, he notes there's an important connector: the RFID (radio-frequency identification) ear tag. This is how blockchain tracks cattle and the data tied to individual animals when ownership changes.

"Whether it's one head, 100 head or 100,000 head, there's a price point, and there's a weight, and it's reported with blockchain. What could be better for understanding the market than every time cattle change hands in real time, you are able to see that? It's data-based management, it's not expensive, and

we have the capability to do it right now."

Asked about producer confidentiality in such a system, O'Brien says the way he envisions the system, this would not be an issue. "In my proposal, the only right the government would have would be to go in and trace a diseased animal in the event of an outbreak. And, if that happens, wouldn't it be better to be able to immediately pinpoint where the animal came from and where in the system it has been?"

The other common concern when it comes to blockchain is the \$1 to \$2 cost of the RFID tag. It's a nonissue, O'Brien insists.

"What no one wants to acknowledge is that with RFID, we open U.S. cattle to new export markets and new branding opportunities. If we're truly looking for transparency as opposed to mandates, this is where our leadership needs to be focused." ///

Editor's Note: At this crucial time in the history of the American cattle producer, we encourage all to let their voices be heard. Contact your preferred representative organization, reach out to Sen. Charles Grassley's office, your representative, feeders and buyers. Tell those in power positions what you think and why.



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Downed Trees Can Be Toxic

We had a bad windstorm and lost a lot of trees. One of them was a chinaberry, and it was just loaded with berries. When I found it, several of my cows were eating those berries. I moved them off of that pasture until I got the tree cut up and burned. As far as I could tell, none of them got sick. Now, I'm wondering if chinaberries are dangerous to cows, so if this ever happens again, I'll know what to do.

Dr. McMillan: I have never diagnosed any problems in cattle from eating chinaberries, but I do remember as a small child watching the migrating robins literally getting drunk on the fermented berries in late winter and early spring. Toxicity has been reported in pigs, cattle, horses, dogs, rabbits and even people. The toxins are most concentrated in the berries.

Clinical signs include salivation, colic, diarrhea and vomiting. With the consumption of larger amounts, signs can include muscle contractions, tremors, collapse and even death. So, yes, you did the right thing when you removed your cattle from that pasture.

For those unfamiliar with this tree, the chinaberry is native to India, Southeast Asia and Australia. It was imported in the 1930s as an ornamental and planted across the South. Like so many of these imported plants and trees, it is now considered by many to be an invasive species. The tree can grow to up to 50 feet tall. It has prolific fragrance and beautiful purple flowers in the spring. Its leaves can be up to 20 inches long with multiple leaflets. The fruit is a hard, round ball that remains on the tree through late winter and into spring.

Downed trees are a common source of toxicity and even death in livestock. Over the years in our area, most of these cases have involved wild cherry, oak and acorns, and mountain laurel. It varies from area to area.



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

I would be interested in hearing from readers who have had problems with downed trees and livestock. This could be helpful to other producers and raise awareness of potential problems.

We have two farms in adjoining counties. For the last few years on one of the farms, we have had a few calves become lame. On some, the joints seemed swollen, and several died. The only difference we can see is location. The cattle are all treated the same. What do you think is going on?

Dr. McMillan: This sounds like a condition commonly called navel ill or joint ill. It occurs when bacteria infect the navel before it dries after birth. In some cases, the infection only involves the navel. It may become hot, swollen and painful. It may fill with pus, and the calf may run a high fever and become very depressed.

If the infection spreads, it can involve the eyes, heart or brain. Most commonly, though, it involves the joints.

Aggressive and early antibiotic treatment, which in valuable calves may include surgical flushing of the affected joints, may be helpful. In many cases though, permanent lameness and death may occur.

Prevention is better than treatment. Critically evaluate calving areas on both farms looking for any differences but with an eye toward sanitation issues. If the calving area is low, wet or muddy, or has areas where manure accumulates, this needs to be corrected. If you can't fix it, move your calving area. Anytime we see common calving areas, we tend to have more of these problems.

I believe cattle should be rotated onto different pastures during calving season, with cross-fencing and pasture rotation being two of the best practices available to improve forage quality, reduce erosion and decrease disease and intestinal parasite incidence.

Also, look at your nutritional and preventive health-care programs. Every operation should have a professionally customized vaccine and parasite-control program. Cattle must have adequate energy, protein and minerals all year long, and be in good body condition at calving. This helps assure that cows produce the highest quality and quantity of colostrum, which is essential in the prevention of calf diseases.

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.



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Deere Launches High-Capacity X9

The new model can harvest up to 80,000 bushels of corn per day.

John Deere's new X-Series combines are an

extension of the manufacturer's combine portfolio, says Matthew Arnold, product manager for Future Combines at Deere in an interview with DTN/Progressive Farmer. "The X9 1000 or X9 1100 [Class 10 and 11 combines] are for producers who need extralarge capacity and who can handle that extra capacity," he explains.

According to Deere, the X9 1100 can harvest up to 30 acres of high-yielding wheat per hour and up to 7,200 bushels per hour in high-moisture corn. That's 2 bushels of corn per second, enough to fill seven semis per hour and 80,000 bushels in a day. "When we used to run the [Deere] 6620, we'd be happy to get that (7,200 bushels) in an entire day," Arnold recalls.

The X9's peak unload rate is 4.6 bushels per second (X9 1000) and 5.3 bushels per second (X9 1100).

X-Series combines give producers new machine inventory options, theoretically reducing the need for hard-to-find operators and giving owners the ability to complete the fall harvest against the push of fall's rain, snow and ice events.

Deere will produce the X9s at its combine facility in Moline, Illinois.

The X-Series' new 13.6-liter engine, updated ProDrive XL transmission and enhanced belt design boast up to 20% less fuel used per bushel harvested over Deere's S790 combine. This machine can go 14 hours between refuelings while producing 14% more power and 11% increased torque over the 13.5-liter engine Deere mounts in its \$790.

LESS FUEL PER BUSHEL

Some of the X9's increased fuel efficiency is due to engine efficiency. Compared to the S790, the X9 1000 represents only a 1% increase in hp (630 max engine hp). The X9 1100 delivers up to 45% more harvesting capacity with only 11% more hp (690 max hp) over the S790. "That means you can harvest more at less energy per bushel," Arnold explains.

The X9s make automatic harvesting adjustments as the conditions change through the day and evening, he continues. Deere's Combine Advisor with ActiveVision cameras maintains performance settings no matter the moisture or harvest conditions.

Deere's X-Series combines feature a 23% wider feeder house, dual separator (two 24-inch rotors with an increased threshing area of 45% and separating area of 80%) and large cleaning shoe. The 75-square-foot Dyna-Flo Cleaning shoe has 36% more cleaning area than the S790, Arnold says.

X-Series combines come from the factory with an integrated StarFire 6000 Receiver, a feature first introduced on Deere's model year 2020 8R and 7R series tractors. JDLink is standard on both X9 models and comes with five years of service.

TECH APPLICATIONS

X-Series combines feature three technology-package options. A Select package includes the StarFire 6000 Integrated Receiver, Generation 4 4600 Display, Harvest Smart and Interactive Combine Adjustment, and it is Connect Mobile ready. The Premium package includes everything in the Select package, plus Active Terrain Adjustment and the Premium 3.0 Activation with AutoTrac RowSense, Section Control and In-Field Data Sharing. In addition to those technology packages, the Ultimate package includes Automation 3.0 Activation with Generation 4 Machine Sync and the Combine Advisor Technology Package with ActiveVision Camera technology and Auto Maintain.

All X-Series combines can connect to the John Deere Operations Center, a cloud-based central location where farmers can electronically share machine or operational information with trusted partners and advisers.

New Header Lineup -

John Deere is updating its entire header lineup to include new HDR Rigid Cutterbar Drapers, RDF HydraFlex Drapers, CR and CF Corn Heads, and a BP15 Belt Pickup. Each is compatible with John Deere X-Series and most S-Series and T-Series combines.

- > The HDR has a new hinged frame that provides terrain-following capability with twice the wing range and uniform cut height.
- ➤ RDF HydraFlex Drapers feature a new two-speed center-feed section that allows operators to slow the feed drum and center the feed belt.
- ➤ CR Rigid corn heads feature a 19-inch cross auger and rolled auger floor to improve handling. For harvesting a leaning, down or flat crop, CR heads can be equipped with Active End Fenders to pull stalks into the head.
- ➤ CF Folding Corn Heads include all the features of CR Rigid Corn Heads with a low-profile folding frame. CF Folding Corn Heads have a fold cycle time of a minute or less. There are 12-, 16- and 18-row CF Folding Corn Heads for X-Series combines.
- ➤ The BP15 Belt Pickup delivers a 20% faster feed rate than the Deere 615P to handle high-volume crops. The BP15 has a wider feeder house opening than the 615P with adjustable feed auger flighting and tines that allow this belt-pickup platform to harvest more acres per hour. When used with an X9 Combine, a BP15 can handle 30 acres of wheat or 23 acres of canola windrows per hour.

The restyled X-Series cab has more storage spaces and USB ports, and improved connectivity. An optional smartphone-ready satellite radio is also available.

Depending on the comfort and convenience package, X-Series combines offer a heated and ventilated massaging seat. The seat swivels 16 degrees left and right. The Ultimate Visibility Package includes features such as 360-degree LED lights, LED lights under each wing and electric heated mirrors. Cameras give operators views of combine operations, such as a rear view when backing up, a view inside the grain tank and a view of the unloading auger.

X-Series combines are available with wheels or tracks. The X9 1000 grain tank holds up to 420 bushels, and the X9 1100 holds up to 460 bushels of grain. Adjustable spouts are available in 26-, 28.5- or 31-foot lengths.

Deere will begin taking orders for these machines in August. The company has not disclosed pricing. Dealers will have production models in the field for the coming 2020 harvest. ///

FOR MORE INFORMATION

John Deere: www.johndeere.com

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Permission To Change

Operations should address legacy assumptions and adjust management decisions for future success.



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

Many family farms and ranches have been operating

for generations, their presence a seemingly permanent marker on the geographic and relational landscape of the community. They take pride in decades or even centuries of history and the land passed from grandparents and parents to siblings and cousins.

The family agricultural business, in the context of this history, exerts a type of gravitational pull on family members, intertwining them through asset ownership and emotional attachment to the vision and sacrifice of their ancestors.

While acting as a bonding agent through difficult times, the family legacy can also serve as an obstacle, blocking the path to necessary and healthy change in business structure and family relationships. Family members will endure unhappiness, tremendous amounts of conflict or dire economic circumstances because of the guilt associated with making changes to the assets and organizations they've inherited.

People often need permission to consider significant changes. That may sound odd: As adults, we can make our own decisions. But, we are often locked into assumptions about the future and constellations of relationships more than we like to admit. It can be hard to free ourselves from ourselves without someone granting us permission in the following areas.

OPERATE DIFFERENTLY

As the industry evolves, consumer preferences shift and agricultural policy changes, owners and operators of farms and ranches also need to adapt. The resources you control as a land-owning family could be more valuable or sustainable when considering trends in recreation, conservation or urban populations. Farming a certain way or growing a certain crop because "we've always done it that way," particularly when farm equity is eroding, creates difficulty for the future.

Almost everyone goes through a similar cycle of frustration with the current system. But, those who survive also explore new models and adopt new practices. To give you the confidence to make adjustments in your business, visit with others you respect about how they decided to change.

EXIT A PARTNERSHIP

Many siblings or cousins wind up in business together because of a prior generation's planning. Estate tax laws, a desire to treat children equally or assets that aren't easy to liquidate are passed in entities or undivided interests, leaving the next generation to navigate the complexities of



ownership and management on top of their familial ties.

Sometimes family members will have better relationships if they aren't in business together. Recognizing the possibility of a different ownership model and granting yourself permission to jointly explore the benefits of dissolving the current structure may lead to a different ownership arrangement and thus a better pattern of interaction for your heirs.

SELL LAND

For many families, talk of selling land purchased with hard-won dollars is the quickest way to draw the ire of one's elders. Discussing a sale seems disrespectful to those who sacrificed so that future generations could have a proverbial golden goose.

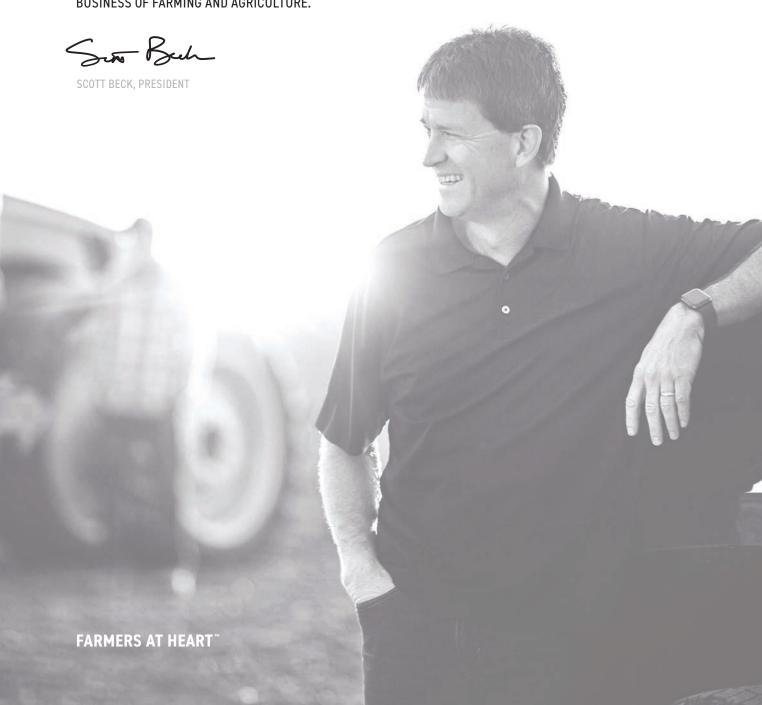
If you sell land to finance a lavish lifestyle, buy cars or toys, or go on trips, your ancestors may indeed roll over in their graves. But, if you convert an asset into a new investment, if you maintain or increase your portion of the wealth given to you, you demonstrate the principle of stewardship. You start to move beyond being a family business toward becoming an enterprising family, adaptable to the goals and desires of future generations.

Considering a change to the business, ending a partnership or selling land can be emotionally and intellectually difficult. But, the results can be rewarding, and it all starts with giving yourself permission to think and talk about changes to the family business. ///



AT THE HEART OF IT.

EVERY FARMER HAS THEIR REASON FOR WHY THEY DO WHAT THEY DO. FOR ME, IT'S FAITH, FAMILY, AND FARMING. I CARE ABOUT HONORING GOD AND FULFILLING HIS PURPOSE IN MY LIFE, IN MY FAMILY, AND IN THE BUSINESS OF FARMING AND AGRICULTURE.





Hydraulic Lift Lock

I have a problem with a Ford 8N tractor that I bought to restore. I finally got it running, and the hydraulic lift will raise, but it won't go down. It just locks up at the top. It will drop down a little in time if the tractor is not started. I removed the top cover, and everything seems to be OK. However, it appears that the control rod is bent. Is it supposed to be straight? Can you tell me why the lift will not go down? The control valve is very hard to move down unless the tractor has not run in a while.

STEVE: Yes, the control rod is supposed to be straight (see photo above). It sounds like your problem is that both valves in your hydraulic pump are stuck. When this happens, the pump will raise the lift arms then send the hydraulic fluid over relief. I bet the engine runs partially loaded because of the pumping of the hydraulic over relief. No oil can leave because the valves are stuck. You will need to drop the pump assembly out of the tractor



from the bottom, but before it will come out, you must remove the PTO shaft. You will lose almost all of the oil in the tractor (5 gallons). I have included a photo (left) of the intake and exhaust valves in the pump. Usually, water will be the cause of the valves sticking. The reason the control arm is bent is that someone "strong-armed" the control lever when trying to move

it down against blocked hydraulic pressure. It moves easily after the blocked hydraulic pressure leaks off. The hydraulic pump assembly has a drain plug, but many tractors have never had this oil changed—ever.



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

I have a Ford 4000 with an 8-speed transmission. It has a high/low range shift. My grandson came to the farm to help, and he got the gears stuck. I can't shift the 4-speed stick because it's locked up. What do I need to do to fix the tractor so we can use it to rake hay?

STEVE: Don't yell at him! This is not that uncommon of a problem on this tractor and other tractors with a similar design. A tractor through the years becomes very comfortable with how it is shifted as the shifting forks and shifting linkage wear. It is really amazing how a change in a driver can make things happen with a machine that we never thought could happen. Tractors, like farmers, are slow to change. In order to fix your problem, all you will need to do is remove the top cover that has both shifters on it. After it is removed, you can align the slots in the shifting forks. This puts the transmission back in neutral. Reinstall the top cover. You may need to change the cover gasket or drop a little silicone in damaged areas of the gasket. Go rake hay while the sun shines, and be glad you have help in the hayfield.

SAFETY TIP OF THE MONTH

While using jumper cables to start another vehicle, try to avoid connecting both cables directly to the battery if at all possible. It is much safer to install the positive cable on the battery and the negative cable to a good ground on the dead vehicle. Sometimes, sparks can cause a battery explosion if the sparks are directly above the battery. Grounding the negative away from the battery will always avoid an







AT THE HEART OF IT.

FOR SOME, IT'S ABOUT COMMUNITY. LIVING THE LIFE YOU WERE MEANT TO LIVE. WHILE WE ALL MAY DO IT FOR DIFFERENT REASONS, THERE IS ONE THING THAT UNITES US. ONE THING THAT WILL NEVER CHANGE. AT THE HEART OF IT, WE'RE ALL FARMERS.



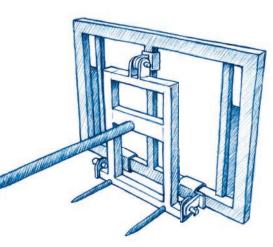
Handy Devices

Easy-to-build ideas make your work easier.

➤ LIFT A TON

Brandon Kuznia, DK Farms, Greenbush, Minnesota, tells how the farm installed an equipment- and supply-lifting system. The lift moves equipment to an upper mezzanine 12 feet off the shop floor. The mechanism was salvaged from a junked forklift. The Kuznias added an electric motor and a hydraulic pump with a reservoir to power the lift. They welded a 5- x 5-foot steel floor to the forks of the old forklift. For safety, they added a similarly sized piece of diamond plate steel to the back of the lifting platform and a rail. The assembly lifts 2,500 pounds.



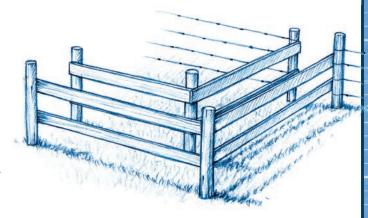


≺ ADAPTED TO THE JOB

Chuck McGlothren, Enterprise, Alabama, designed an easy way to hook his John Deere H360 loader to a hay spear, hay slide or boom pole. He built this adapter to accommodate all three. The adapter includes the sliding brackets that allow for easy alignment and top link spacing on his implement of choice.

> GATE WITHOUT A GATE

William Gammon, Chatham, Virginia, designed a way to enter a pasture without a gate. Gammon built the walk-through with six wooden posts and four treated 1 x 6 boards, each board 10 feet long (cut in half). He put the posts into the ground, each one spaced about 5 feet from the next. Then, he attached two boards to each section of the walk-through to finish the project.



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.

MULTIPLE SOAs: THE BEST WEED CONTROL OPTION

The easiest weeds to control are those that never emerge. Cliché? Maybe. But as weeds continue to adapt, mounting resistance to herbicides builds every year. Sustainable control has become increasingly more challenging to achieve.

The over-reliance of a single site of action (SOA) continues to provide new challenges for weed control in soybeans with each growing season. XtendFlex® soybeans will help farmers focus on the basics of a sound weed management system — multiple SOAs and overlapping residuals, all without having to compromise performance and yield.

Sustainable weed control is only possible through the incorporation of a herbicide program that utilizes multiple effective SOAs. Beck's multi-year Practical Farm Research (PFR)® data has demonstrated the impact and importance of utilizing a pre-emerge program with multiple SOAs (Figure 1).

ADVANTAGES OF THE XTENDFLEX® SYSTEM

XtendFlex soybeans feature the benefits of the Roundup Ready® Xtend Crop System with the addition of tolerance to glufosinate. This allows access to multiple effective herbicides to manage each of your fields' unique weed challenges. Beck's PFR studies on the effectiveness of combining glufosinate and glyphosate show they are a powerful tool against tough-to-control waterhemp.

POWER IN THE PRE™: Controlling weeds early with a pre-emergence application not only reduces the likelihood of developing resistance, but it also protects soybean yields. The over-reliance on POST programs

to control early-emerging weeds is unlikely to provide results and could cause yield losses of up to 2.5% for every growth stage you delay your applications. Put the Power in the Pre™ and let your pre-emergence applications do the heavy lifting. Post-emergence applications can then be used as rescue treatments for weed escapes.

POWER OF MULTIPLE SOAs: In-season,
Liberty® will provide effective postemergence control of weeds such as
waterhemp, kochia, and giant ragweed.
XtendFlex soybeans provide postemergence tolerance to multiple SOAs to
control resistant broadleaf weeds. Now
farmers can confidently pursue higher
yields by making early-season herbicide
applications and maintain the option of
spraying Liberty over-the-top once crops
have emerged.

POWER OF HIGH-YIELDING GERMPLASM:

Backed by uncompromising yield potential and outstanding agronomic performance in all maturities, XtendFlex® soybeans are built on the same proven genetic performance of high-yielding Roundup Ready 2 Xtend® soybeans, now with the power of Liberty herbicide.

RIGHT: Number of SOAs (Pre-Emerge)
Influence on Waterhemp Control from
Beck's multi-year Practical Farm
Research (PFR)® data.

While weed control continues to provide new challenges with each growing season, you will have the option to bring the power to your soybean platform in 2021 with XtendFlex soybeans.

The EPA is currently reviewing a new registration for XtendiMax® for the 2021 season and beyond.

FIGURE 1: INFLUENCE OF MULTIPLE SOAS ON WATERHEMP CONTROL

(% VISUAL CONTROL)



No dicamba may be used in-crop with seed in the Roundup Ready® Xtend Crop System, unless and until approved or specifically permitted by the U.S. EPA and the appropriate state agency for such use. As of August 2020, no dicamba formulations are currently registered by the U.S. EPA for in-crop use with seed in the Roundup Ready Xtend Crop System in the 2021 season. Current stocks of low-volatility dicamba herbicides Kerndilm&n* herbicipen Repoin* herbicide greeviously approved for in-crop use with seed in the Roundup Ready* Xtend Crop System may not be used after July 31, 2020. Dicamba may harm crops that are not tolerant to dicamba. Contact the U.S. EPA and your state pesticide regulatory agency with any questions about the approval status of dicamba herbicides products for in-crop use with seed in the Roundup Ready* Xtend Crop System.

NOTICE: DO NOT APPLY ANY HERBICIDE TO SEED IN THE ROUNDUP READY® XTEND CROP SYSTEM UNLESS IT HAS A PRODUCT LABEL SPECIFICALLY AUTHORIZING THAT USE. TO USE A HERBICIDE IN ANY MANNER INCONSISTENT WITH ITS LABELING IS A VIOLATION OF FEDERAL LAW. REFER TO THE BAYER TECHNOLOGY USE GUIDE FOR DETAILS AND RECOMMENDATIONS ON USING APPROVED ROUNDUP® BRANDED HERBICIDES ON SEED IN THE ROUNDUP READY® XTEND CROP SYSTEM.





Drone Dispersal

Two companies show the future of spraying could be in large autonomous aircraft.

There's one vision of the future of drone use

in agriculture that involves half a dozen, maybe more, aerial multirotor drones buzzing over a field to spray, finishing the task by virtue of numbers rather than size. It's an idea already being tested and considered by a handful of companies around the world.

Another vision sees that size/number relationship a little differently, instead focusing on large aerial drones capable of doing the job themselves—and fast. There, too, technology companies are beginning to make their bid for what the future may look like.



TAKING FLIGHT

"At a small scale, the simplicity of a multirotor is really beautiful when you're trying to move a camera around,

Pyka hopes to revolutionize the cropspraying business with its tri-engine electric autonomous aircraft.

but when you're trying to move 600 or 800 pounds of liquid, the inherent inefficiencies of the platform cause real economic problems," says Michael Norcia, who proposes solving some of those problems with Pyka, the ag startup he co-founded.

Pyka looks and acts more like an aerial-drone adaption of a traditional crop duster than it does a four- or six-propeller drone, albeit with electric engines rather than a plane's gas engine. The company is set to debut its newest model this autumn, and it promises speed, efficiency and cost benefits by using a tri-engine drone airplane with a 38-foot wingspan. The plane should be able to spray up to 135 acres an

hour, including time to swap out batteries and refill the spray tank.

The company has lined up certification in New Zealand. It has been testing there for a year, logging more than 10,000 miles flown spraying herbicides, insecticides and fungicides on wheat, potatoes, kale and radishes.

Licensing in the United States is more complicated, and Pyka anticipates starting on the West Coast to spray diverse crops. It could be several years before the company tries to get into staple crops in the Midwest.

"Corn and soybeans are obviously huge acreage, but they don't get sprayed very often by and large, usually one aerial spray per season," Norcia says. "So, for us, the more attractive farms, especially as we're developing this, are crops that need sprayed more frequently. Long term, though, we'd love to be partnering with applicators in those regions, as well."

If development goes as planned, Pyka's planes could cost half as much per acre from an operating perspective as more traditional manned crop duster aircraft.

SCALED-UP MULTIROTOR

Volocopter, a German company, sees yet another answer to the future of aerial spraying. It also pushes back against the idea of an army of small multirotor drones, but with one giant multirotor drone, an 18-propeller beast capable of hauling 440 pounds up to 25 miles or spraying up to 15 acres an hour on a battery charge that will last 30 minutes.

"It's not like the small drones, which are basically consumer products," says Marketa Dvorakova, the company's business development manager. "It's an aircraft at the end of the day, and there are advantages."

Volocopter, with its VoloDrone, has a well-known partner in ag, too, announcing last fall it was working with John Deere to develop sprayer capabilities, attaching those parts to the bottom of the multirotor machine's frame.

"We worked together with John Deere, as they have great knowledge for the agricultural space, and we believe we can add great value for farmers by allowing them to go into the third dimension (vertical) without having to have a helicopter," Volocopter's Helena Treeck says.

Some of a larger vehicle's advantages over smaller drones are obvious in the amount of chemical that can be flown and how much ground can be covered in one flight. Other advantages are less obvious. The Volocopter team points to the downwash its machine produces as one perk. That force is much greater in driving the spray down into the crop canopy than is possible with a smaller multirotor aircraft.

It isn't headed straight for the American Midwest either. The first target, the team says, is steep-sloped vineyards, which can be dangerous for tractors.

NEW DIRECTIONS

Both Pyka and Volocopter come to the ag industry in a similar, unique way: from the technology world and as part of an effort first launched not to build a sprayer but an autonomous aerial taxi.

Volocopter is well down that path. It staged a public test of its autonomous taxi's (meant to haul people) capabilities in 2017 in Dubai, then last year in Helsinki, Singapore and Stuttgart, Germany. It branched to utility drones in 2018.

Pyka comes out of Silicon Valley and was the product of entrepreneurs searching for a use for technology they'd already been working on rather than some farmers looking for a way to spray their fields.

"We wanted to work on an aircraft you could put people on someday but wanted to find a use case



that was really useful for society but low risk," Norcia explains. "We really fell in love with crop spraying."

landed a partnership last fall with John Deere to add sprayer equipment to its large drone. One big difference between JOEL REICHENBERGER

Germany's Volocopter

the potential reach of smaller multirotor spray drones and their larger cousins is already evident: Licensing issues have kept Pyka largely grounded from commercial spraying in the United States. A company like Rantizo, however, which takes modified DII consumer drones and outfits them for spraying, is certified in many states and began spraying fields commercially last year.

Pyka hopes to take to the air in the U.S., as well, by the end of 2020 or by early 2021. ///







Bayer Settlements Address Legal Headaches



Bayer will dole out roughly \$12 billion in an attempt to settle mounting litigation facing its portfolio of chemicals.

In June, the company agreed to a total payment between \$8.8 and \$9.6 billion to resolve both current and future litigation over Roundup, the glyphosate herbicide first marketed by Monsanto. Bayer inherited the legal issues when it purchased Monsanto in 2019. In recent years, the companies have faced lawsuits alleging glyphosate has caused cancer, particularly non-Hodgkin's lymphoma (NHL).

Bayer will also pay up to \$400 million to resolve litigation pending in the U.S. District Court for the Eastern District of Missouri over claims of crop injury from Bayer's dicamba herbicide XtendiMax.

The settlement package will also direct about \$820 million to address litigation on PCBs in water.

"Cash payments related to the settlements are expected to start in 2020," according to a company press release. "Bayer currently assumes that the potential cash outflow will not exceed \$5 billion in 2020 and \$5 billion in 2021; the remaining balance would be paid in 2022 or thereafter."

GLYPHOSATE SETTLEMENT

By Bayer's estimates, the Roundup settlement will address about 75% of current Roundup lawsuits involving about 125,000 filed and unfiled claims.



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

It will also include an allowance to cover unresolved claims, as well as \$1.25 billion to address "potential future litigation."

The settlement does not cover three recent California cases involving



claims, which resulted in more than \$2.2 billion in jury judgments against Bayer and are now under appeal.

To bring some scientific closure to the question of glyphosate's relationship to cancer, the settlement also establishes an "Independent Class Science Panel." This panel will determine whether glyphosate does cause NHL, and if so, at what levels of exposure.

This Roundup agreement is subject to approval by the U.S. District Court for the Northern District of California.

DICAMBA SETTLEMENT

Bayer has set aside \$300 million to resolve multidistrict litigation concerning dicamba injury pending in the U.S. District Court for the Eastern District of Missouri. That settlement is also open to anyone else who claims to have suffered soybean yield losses from dicamba from 2015 through 2020.

Another \$100 million will address legal costs associated with the litigation, as well as claims of non-soybean plant and crop injury from dicamba.

The Bader Farms dicamba lawsuit, which ended in a jury ordering Bayer and BASF to pay \$325 million to a peach farm injured by dicamba, is not included in this settlement. Bayer has vowed to continue to fight that ruling.

The future use of dicamba herbicides over the top of dicamba-tolerant crops has been thrown into jeopardy recently after a Ninth Circuit ruling vacating the registrations of three of four OTT (over-the-top) dicamba herbicides, including XtendiMax, on June 3. All of the dicamba herbicides specific to the Xtend system must be reregistered by the EPA before use in the 2021 crop.

Lisa Safarian, regional head of North America for the Crop Science division of Bayer, says the company will continue to stand behind the herbicides. "We have quite a few products that are in the pipeline that are built off the glyphosate and the dicamba base," she says. ///

-Emily Unglesbee contributed to this report.

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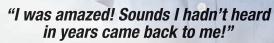
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Smart Application

AMVAC and Trimble introduce prescriptive in-furrow application system for planters.

A new in-furrow crop-protection and nutrient-

application system holds promise for improved planting efficiency and handling safety.

Jason Orr, Rowley, Iowa, was one of five Midwest producers selected to evaluate SIMPAS—Smart Integrated Multi-Product Prescription Application System—while planting corn this spring. AMVAC developed and patented the system. Trimble is the equipment and technology distribution partner.

SIMPAS uses SmartCartridges that allow a farmer to prescriptively apply up to three in-furrow granular or liquid products simultaneously per row while planting. Each container can hold 20 pounds of granular or 2.5 gallons of liquid products such as insecticide, fungicide, nematicide, micronutrients and more. The system is set for commercial release next year.

Orr used SIMPAS to apply Aztec HC for corn rootworm control, Counter to control nematodes and the micronutrient zinc while planting 1,500 acres of waxy corn. He cut refill time for crop inputs, excluding seed, from about 30 to 15 minutes compared to the SmartBox system that was previously installed on the 12-row planter. However, he was not able to complete prescriptive application over every acre. Orr could not upload prescriptions in his Case IH Pro 700 monitor on his own because technicians weren't available for inperson help because of COVID-19 restrictions.

"I really think it will revolutionize how we look at in-furrow applications," Orr says. "I expected some hiccups being new. You have to be careful how you place cartridges in to let product flow ... but they were easy to handle even at the end of the day."

SYSTEM SIMPLICITY

SIMPAS is designed to provide a safe, efficient and economical way to apply crop inputs in-furrow. All products are contained in plug-and-play containers to prevent exposure to dust and spills. The system can be attached to almost any planter. In Orr's case, it was a 12-row Case IH 1250.

Any ISO-based (International Organization for Standardization) display with robust processing capabilities and precision/prescriptive software can be used. Planting prescriptions are uploaded in the display, which controls the application rate of each product through a metering system. It's similar to the way an inkjet printer



turns cartridges on and off to print.

SIMPAS will autoload product information into the system by reading

SIMPAS uses SmartCartridge enclosed containers to apply prescribed rates of multiple dry and/or liquid products in one pass.

an RFID (radio-frequency identification) chip on each SmartCartridge. The chip also keeps track of product use while planting and after the cartridge is removed. Retailers scan the returned cartridge's chip, which tells how much product is left. Farmers only pay for what they use. That's a big deal in today's farm economy, Orr states.

"The beauty of the SIMPAS system is cartridges don't have to be empty when they go back, so it's easy to time switching cartridges with seed and liquid fertilizer fills," Orr says. "That really speeds things up and saves money. There will also be a savings treating individual areas rather than every acre."

He adds the cost for applying Aztec HC for rootworm control is about \$22 per acre.

EXPANSION POTENTIAL

Besides Iowa, growers in Arkansas, Indiana, Minnesota and Nebraska tested SIMPAS this spring over 10,000 acres. Participating retailers will fill containers with products from AMVAC and other companies such as Nutrien Ag Solutions and Helena Agri-Enterprises, among others.

"We are in discussion with multiple companies to build and broaden our portfolio of AMVAC brand and other brand products," says Jim Lappin, director of the SIMPAS portfolio. "Growers like options."

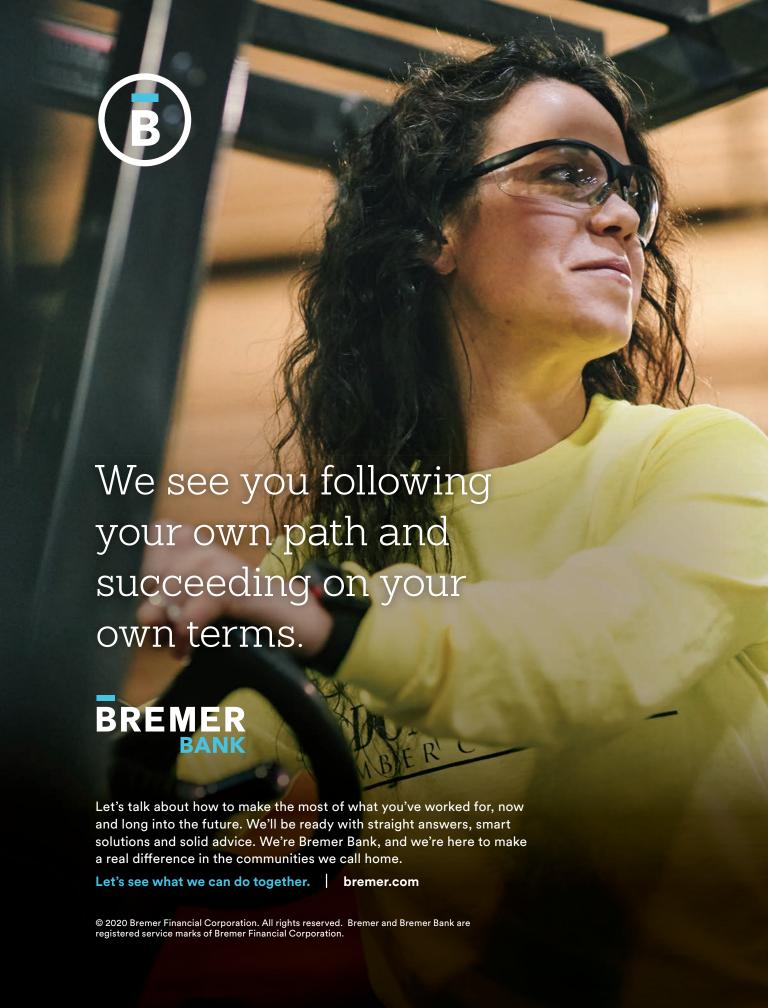
Trimble, which will sell and service SIMPAS equipment and hardware, had not released prices at press time.

Kevin Barkow, global director of strategic products for Trimble, says the system tested will be very close to the commercial version. Some "tweaks" are being made, such as user interface improvements, thanks to farmer feedback. ///

> Follow Matthew Wilde on Twitter @progressivwilde

FOR MORE INFORMATION

SIMPAS: www.simpas.com



Buying Time

Texas Panhandle irrigator uses remote access and pivot programming to target windows of opportunity.

Matt Moore was spraying wheat

when one of his center-pivot sprinklers needed attention. "Instead of stopping what I was doing and driving 8 miles to the circle to turn off the pump, I just did it with my iPhone from the sprayer," the fourth-generation Texas Panhandle farmer explains. That call saved him 30 to 45 minutes in a place where constant wind leaves only short windows for spraying. Moore has been adding remote access to his irrigation system for several years.

Moore Family Farms, a 9,500-acre operation near Dalhart, Texas, is heavily involved in watermelon and pumpkin production, and has a busy rotation of traditional High Plains crops such as corn, cotton, milo and winter wheat. Half of the farm is in dryland production. Thirty-five sprinklers water the rest. The farm adjoins a 60,000-head feedlot, which provides a ready market for various chopped feeds and forage.

REMOTE ORGANIZATION

With the addition of two new sprinkler systems in the spring of 2020, Moore's inventory of pivots on the home farm includes 15 Reinke machines, all in the process of being equipped with ReinCloud Ag-Data Services and GPS service. The program enables growers to organize a farm by property, zones and equipment, and affords remote access to sprinkler operation and controls.

"The flexibility of the system allows us to tailor our watering to growing conditions, crop needs and sprinkler capabilities, and gives us remote access," Moore explains. "We have limited water on many of our





Matt Moore uses sector programming to grow crops on about 4,500 Texas acres according to water availability.

circles, and to better manage the output of our wells, we can use the system to program barriers to water only partial sections or zones. For instance, on a half-mile sprinkler, which covers 500 acres, we have a 187-acre barrier set that allows us to efficiently water that zone for more water-thirsty crops.

"Cotton and melons work well together for us. If we have enough water to fully irrigate one circle, we'll plant one half in cotton and the other half in watermelons, and then alternate watering back and forth. That timing works well for us. Milo and cotton also work well together in the same way, and both will make a crop even if we lose water," he says.

BOOST EFFICIENCY

"With sector programming, we can grow crops according to our water availability," Moore explains. "Also, we can fertigate partial portions of a circle depending on what we're growing, and we can start, stop and reverse the sprinklers at will remotely."

While meeting crop water and nutrient needs on an individual basis boosts farm efficiency, he says the biggest advantage of his irrigation management system is the conservation of personal time.

"I don't have to live worrying about, 'Did the pump come on?' Also, on high-value crops such as pumpkins, my crop adviser can tell me to start or stop, or reverse the sprinklers. I can do it from the tractor," Moore explains.

Despite a variety of crops growing and nearly three dozen sprinklers, he says he remains committed to "boots on the ground" when it comes to irrigation timing rather than using soil-moisture monitors.

"We've tried monitors, and for us, we just didn't see the advantage," he says. "The monitors provide information, but we've personally found it more effective to walk the fields with a 4-foot soil probe in hand. It seems more effective and efficient for us."

Moore's center pivots, pumping from as deep as 800 to 1,000 feet, generally are equipped with drops mounted 5 feet apart about 30 inches off the ground. Nelson "bubbler" nozzles fend off the evaporative effects of the nearly constant winds of the growing season.

"Over the past couple of years, we've made an effort with surface drip irrigation under plastic on our watermelons, but we've found the drops and bubbler nozzles are just as effective," Moore explains. "There's not a lot of wind loss with the bubblers."

COST CONTROL

Moore says sector control for fertigation is also a selling point for him.

"It's too early to pinpoint yield increases or fertilizer efficiency, but we know applying nitrogen through the sprinkler is dependable and saves the cost of an applicator," he says. "Also, we don't have to be there as it's being applied.



Moore manages malfunctions and travel time resolving irrigation issues by remote access with his iPhone.

"Costwise, we've also found 32% liquid is less expensive than 46% dry fertilizer."

B.J. Ward, owner of Dalhart Alliance Irrigation, says Moore's adoption of remote-access irrigation technology is typical for High Plains agriculture, where water availability and the lack of labor are forcing growers to push for both agronomic and management efficiency.

"Matt's operation covers roughly 15 sections of land, and he and four employees are farming it," Ward says. "That's the shape of things to come in this part of the country. Adopting the latest technology is the only way to continue." ///



CLAAS Reveals All-New Straw Walkers

Lexion 6800, 6900 combines offer more productivity and less day-to-day maintenance.







CLAAS of America has rolled out a pair of all-new

Lexion 6000 Series straw walker combines—the Lexion 6800 and Lexion 6900.

The manufacturer told a virtual gathering of ag media that the new technology represented by these machines offers producers new efficiencies in their wheat, canola and grass seed crops. CLAAS designed the 6000 Series combines for markets in western Canada and select regions of the U.S., including Idaho, Oregon and Washington.

"Lexion combines have built a reputation for delivering increased harvest efficiency and productivity, saving fuel and grain, and driving down the cost of harvest for more than 20 years," says Blake McOllough, product manager, combines at CLAAS. "Designed with efficiency in mind, the Lexion 6000 Series straw walker combine does that and more with new cutting-edge technology to keep operators harvesting acres in record time."

CLAAS points to several features important to the new combines:

Throughput. The new machines provide up to 25% more throughput. The CLAAS APS Synflow Walker threshing and separation system has the straightest crop flow in the industry, the manufacturer contends, and

is the only combine on the market with an accelerator drum for constant crop acceleration, efficient grain separation and gentle straw handling.

Grain Tank. Lexion 6000 Series combines incorporate max grain tank storage for 425 bushels. Unloading is 5.1 bushels per second.

Automation. The Cemos Automation combine system makes autonomous and automatic real-time, infield adjustments with more precision and speed than a seasoned operator, the company states.

Road Speed. 6000 combines move from field to field at up to 25 mph.

Switch. In-cab, push-button capabilities reduce crop conversion time by more than 50% compared to previous models. CLAAS made intuitive cab design enhancements for operator comfort.

Maintenance. CLAAS says daily maintenance time is shortened to 20 minutes with features such as an automatic central lubrication system. Dynamic Cooling increases air filter service intervals by up to two weeks.

Pricing was not available at press time. ///

FOR MORE INFORMATION

CLAAS of America: www.claasofamerica.com



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owa beef producers Corinne and Justin Rowe never just wanted to sell beef. They wanted something more. They wanted a relationship with those buyers.

Known locally as "Rowe's Red Cows," this fifthgeneration cattle family, based near Dallas Center, found an unusual way to make folks feel like family. They came up with "Moo-ve Your Beef" in 2018, an annual event that brings select customers to the farm to participate in a cattle drive. This is just moving cow/calf pairs from one pasture to another, but for folks outside of the cattle



business, it's close enough to be considered a cattle drive. The Rowes give customers a visit to the farm and insight into how they handle cattle. Afterward, there's time for feedback, lots of questions and a picnic lunch.

Visitors to the Moo-ve event learned how large cows are, how paddocks are divided to accommodate rotational grazing and why the Rowes fence cattle out of ponds.

VISITOR PLANS

Before extending invitations, the Rowes carefully evaluate their grazing setup for the season, identifying a good location where visitors will be able to observe cattle up close while experiencing the short move. They consider what size group they can manage for a particular move. Visitors are kept safe, riding on a trailer lined with hay bales, as cattle are moved.

During this drive, eight adults and one child take part in a one-mile move that lasts between 15 and 20 minutes, starting at 4 p.m. The Rowes work out as many details as possible beforehand, informing neighbors about the event and fencing off the route to prevent cattle from straying off course.

When visitors arrive, they are told what is about to happen and how to respond if a cow goes under a





The Rowes began selling meat directly to customers in 2016. Through word of mouth, they've built a network of customers who purchase beef in bulk quantities, such as a quarter or a half.

fence or something equally unexpected happens.

"We explained that, for their safety, we had a designated area where they needed to stay," Corinne says. "We asked them to follow our lead if something went wrong. After they observed the cows and calves close up in the paddock for a few minutes, we got ready to start our move."

The Rowes stationed a pickup on the south and north end of the move route to help keep cattle on the intended path. Justin opens the pasture gate to the road and leads cattle out with a four-wheeler. Corinne follows, making sure no one gets left behind. "Both I and one of our helpers followed the cattle to make

sure we didn't have stragglers and none of the cows turned into a yard along the way," she explains.

OBSERVATIONS

As they herd the cattle along, the Rowes talk to them, saying things like, "Come on, girls. Keep moving." They learn later their verbal coaching surprised their guests.

"They couldn't figure out why we talked to the cows," Corinne laughs. "But, we always talk to them."

The move ends with time for visitors to observe how cattle begin grazing immediately after entering a new paddock. Poly water tanks are moved and set up in the new grazing area. It is a normal day in a cattle producer's life, but for someone who has never been on a ranch, it is a new experience.

The afternoon concludes with grilled burgers underneath a large Maple tree, where the Rowes make time to answer questions about the operation.

And, as is often the case when dealing with cattle, there is at least one surprise this first year. "We didn't plan to have a newborn calf for visitors to see, but there was an hours-old calf," Corinne says. "They were all able to see and take pictures of it. At the end of the day, we believe our customers were more confident than ever in how we produce beef." ///

FOR MORE INFORMATION

Follow the Rowes on social media: @rowes_red_cows.

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Progressive Agriculture



▲ During this hidden-hazard hands-on activity, these South American participants are challenged to identify dangerous situations around the farm or ranch. They also discuss how these hazards can be corrected and avoided.

◀ During this shrinking-balloon handson activity, these South American participants learn how difficult it is to breathe when buried below the grain. The participants recognize how much energy it takes to expand your lungs to breathe in a grain engulfment.







"Since 2012, Progressive Agriculture Safety Day events have been offered at Nutrien Ag Solutions facilities and conducted by employees, teachers and other volunteers for local schools in a variety of communities. Progressive Agriculture Safety Days offer new, handson materials that the children would not receive otherwise. This is an important, valuable resource and makes a lasting impression on not only the children but all involved." ~María Golletti, Nutrien Ag Solutions CSR Coordinator

Nutrien continues to support a Progressive Agriculture Safety Day presence in both North and South America.



The Progressive Agriculture Safety Day® program remains licensed in South America thanks to a licensure agreement with our 5-star partner, Nutrien. Nutrien, the leader in global agriculture and the world's premier provider of crop inputs and services, coordinates Safety Days in Argentina, Brazil and Uruguay through Nutrien Ag Solutions, the retail business.

"Nutrien exists to provide farmers with the services and solutions they need to grow crops, while ensuring a reliable and sustainable supply of food for a growing population. Nothing is more important than the health and safety of our employees, customers, their families and our communities. Safety will always be a core value at

Nutrien, and nothing is more important," says Rose Lecky, senior manager of community relations and investment at Nutrien.

Nutrien also provides leadership to the Progressive Agriculture Foundation board of directors through Filemon Guzman Jr., who currently serves as the board chairman. "My entire life has been spent in agriculture having grown up on a farm in the rural Texas Panhandle and now supporting agriculture as a part of the Nutrien family," says Guzman, senior manager, SH&E, Corn Belt Region at Nutrien. "I know firsthand the hazards and risks that await our farmers and their families every single day as they carry out their mission of feeding the world. I am proud to support the partnership between Nutrien, Nutrien Ag Solutions and the Progressive Agriculture Foundation, whose mission is to bring safety education to the children and families of the communities where we live and operate."

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Mexican Street Fare

Crispy fish meets a bright, cooling salsa in this specialty taco.



CRISPY FISH TACOS

This is a perfect meal for those slow summer days and more time with family.

MAKES: 2-3 SERVINGS **TOTAL TIME: 30 MINUTES**

Vegetable oil

- 1 (10-ounce) box tempura batter mix
- 1 teaspoon garlic powder
- 1/8 teaspoon cayenne pepper
- 13/4 cup ice water

- 1 pound firm whitefish (cod, haddock, tilapia), cut into 2-inch chunks
- 1/2 teaspoon kosher salt
- 1/4 teaspoon freshly cracked black pepper
- 12 small corn tortillas (street-taco size)
- ¹/₃ cup Mexican crema
- Fresh Mango Salsa (see recipe below) Fresh limes for serving
- 1. Fill a pot with 2 inches of oil; heat to 350°F.
- 2. Stir together tempura mix, garlic powder, cayenne pepper and ice water until just
- **3**. Toss in salt and pepper to season fish, then use tongs to dip fish into batter; shake off excess batter.
- **4**. When oil comes to temperature, gently lower fish into oil; fry in batches 3 to 5 minutes or until golden brown on all sides.
- **5**. Warm tortillas (or fry them in oil until crispy); serve with fish.
- **6**. Garnish each taco with crema and salsa. Serve with fresh limes.

FRESH MANGO SALSA

Made from scratch, this delivers big flavor.

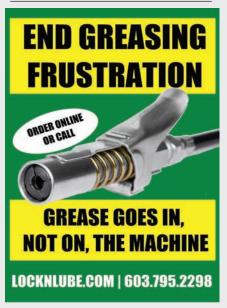
> MAKES: 2 CUPS SALSA **TOTAL TIME: 30 MINUTES**

- 2 firm and ripe mangos, peeled and diced
- 1 medium red bell pepper, diced
- 1/2 cup red onion, diced
- 1/4 cup fresh cilantro leaves, chopped
- 1 jalapeño, deseeded and chopped
- 1/4 cup fresh lime juice
- 1 tablespoon olive oil
- 1/2 teaspoon kosher salt
- 1. Combine all ingredients; stir.
- 2. Season salsa to taste; chill at least 20 minutes before serving.

Recipes and photos by Rachel Johnson www.stupidgoodrachel.com









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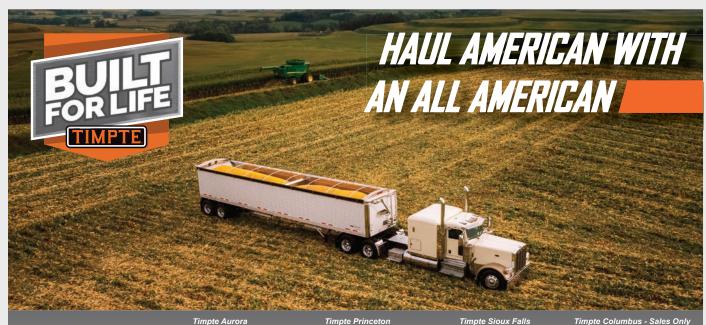


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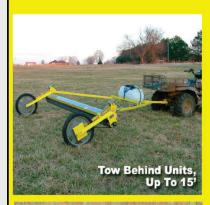


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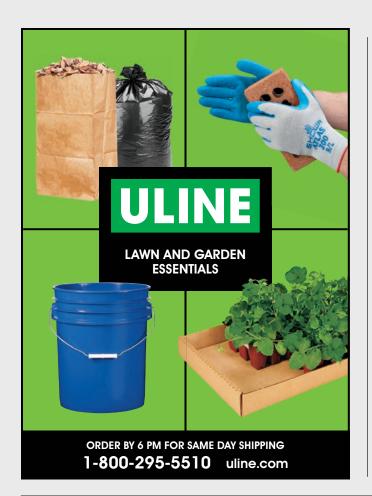


LOOK: One hand can easily adjust the 600# upper bar





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"Courage is not the absence of fear; it is the conquest of it."

-William Danforth

Courage

Be strong and of a good courage, fear not, nor be afraid of them: for the LORD thy God, he it is that doth go with thee; he will not fail thee, nor forsake thee.

DEUTERONOMY 31:6 (KJV)

Courage is being scared to death-but saddling up anyway.

JOHN WAYNE

Courage is rightly esteemed the first of human qualities ... because it is the quality which guarantees all others.

WINSTON CHURCHILL

Cowards die many times before their death.

WILLIAM SHAKESPEARE

One isn't necessarily born with courage, but one is born with potential. Without courage, we cannot practice any other virtue with consistency. We can't be kind, true, merciful, generous, or honest.

MAYA ANGELOU

Without courage, wisdom bears no fruit.

BALTASAR GRACIÁN

The best way out is always through. ROBERT FROST

I love the man that can smile in trouble, that can gather strength from distress, and grow brave by reflections.

THOMAS PAINE

The encouraging thing is that every time you meet a situation, though you may think at the impossibility and you go through the tortures of the damned, once you have met it and lived through it you find that forever after you are freer than you ever were before. If you can live through that you can live through anything.

ELEANOR ROOSEVELT

The greatest test of courage on the earth is to bear defeat without losing heart.

ROBERT G. INGERSOLL

What cannot be cured must be endured. **EDMUND SPENSER**

To dare is to lose one's footing momentarily. To not dare is to lose oneself.

SØREN KIERKEGAARD

Only be thou strong and very courageous, that thou mayest observe to do according to all the law which Moses my servant commanded thee ...

JOSHUA 1:7 (KJV)

Whatever you do, you need courage. Whatever course you decide upon, there is always someone to tell you that you are wrong. There are always difficulties arising that tempt you to believe your critics are right. **RALPH WALDO EMERSON**



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