

A REGENERATIVE RANCHING PUBLICATION FROM NOBLE RESEARCH INSTITUTE

LEGACY

FALL 2025 | VOL. 19, ISSUE 3

80

Years & Counting

In 1945, Lloyd Noble founded an organization to help farmers and their land recover from the Dust Bowl. Read how Noble Research Institute has touched ranchers' lives these past 80 years.

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Light illuminates a bust of Lloyd Noble, founder of Noble Research Institute, Ardmore, Oklahoma.

LEGACY

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Noble Research Institute is the nation's largest nonprofit serving farmers and ranchers with research, education and mentorship for regenerating soil health to improve their land, livestock and livelihood. Since 1945, Noble Research Institute has been a leading, trusted resource in agricultural research and education dedicated to land stewardship. Demonstrating our ongoing commitment to regenerating our nation's grazing lands, Noble actively manages 13,500 acres of working ranchlands to provide real-world insights and applications for farmers and ranchers. To learn more about Noble Research Institute, visit www.noble.org.

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PRESIDENT'S NOTE

A REGENERATIVE MINDSET IN CONVERSATION



In a world that seems to have mastered the art of arguing, I've grown to approach conversations with more intention and reflection. Perhaps differently now than in my youth, I find more value in listening to understand rather than speaking to persuade.

As interest in regenerative land management continues to grow, I believe our industry is facing a similar turning point. We're no longer just a small group of passionate ranchers and advocates. Ranching to build soil health is gaining mainstream attention — and with that attention comes increased scrutiny. More than ever, I'm seeing interviews and articles from credible voices who are skeptical of grazing land management that emphasizes building the resilience of the land and the profitability of the operation.

At first, I found these critiques frustrating. There is a growing body of science that supports the benefits of regenerative principles — for the land, the rancher and the livestock. It's not a one-size-fits-all approach, but it is a viable path for many. Healthy land and freedom of choice are both good things. So why are so many still resistant to the idea?

With time, my frustration turned into curiosity. I recently came across an opinion piece by an agronomist with decades of experience in conventional crop production. While row crop production isn't Noble's focus, there is a lot of crossover in the conversations surrounding any low-input production system and soil health principles.

Initially, I took his skepticism as a personal slight—also left over from my youth (it happens from time-to-time). But after stepping back and re-reading the article, I saw something else. Beneath the veil of his attacks, he was actually asking questions and trying to reconcile ideas that were counter to his training and life experiences.

His perspective was rooted in genuine concern — how could a system with fewer inputs, and less reliance on pesticides, fit into the world he knew so well?

I could appreciate where he was coming from. He had built a career helping farmers maximize yields, and any shift away from familiar tools and practices could seem threatening — even if the ultimate goal is still land health and profitability. His perspective helped me see skepticism as a signal: people are paying attention. When we have their attention, how we respond matters.

We must approach these conversations the same way we approach our land — with curiosity, humility and an open mind. Rather than debating which system is right, we should seek to understand others' concerns and share our own lived experiences of regenerative ranching. In the end, we are all looking for ways to keep U.S. farmers and ranchers on the land and helping them build resilience in their lands and livestock operations.

When it comes to advancing regenerative ranching, a more thoughtful approach is often more effective. Your stories — of transition, challenges and success — are what truly move the needle. Keep sharing them, whether it's with a neighbor at the feed store or thousands on social media. Every conversation matters.

A handwritten signature of Steve Rhines in black ink.

Steve Rhines, PRESIDENT

FROM OUR RANCHES

NOBLE RANCHES | RED RIVER RANCH

Tools of the Trade

RANCH MANAGER KEVIN PIERCE shares his experience with three grazing tools being used on Noble's Red River Ranch.

BY LAURA BRENNER

▼ Ranch manager Kevin Pierce and ranch assistant Kye Henington move fences on Red River Ranch with the help of a self-contained trailer called the Razer Grazer.

Red River Ranch manager Kevin Pierce says he appreciates the automatic reel winder on the Razer Grazer trailer when building mile-long temporary fences.

Kevin Pierce emerges from his office on Noble's Red River Ranch with a small, blue device in his hand. Pierce, the ranch manager at Red River, eagerly sets up a demonstration of how a Batt-Latch works. It's a solar-charged gate release timer Pierce started using a couple of months earlier at a time when he was moving one of the cattle herds four times a day.

He sets the time on the device, connects the spring gate to the porch railing and the strap of the timer to a step-in post in the ground and steps back. Within a few moments, the Batt-Latch lets out a few warning beeps and releases the spring gate, which ricochets toward the porch railing with surprising speed.

This portable device is one of several new-to-Noble tools Pierce is trying out to see how each may enhance grazing management efficiency. These grazing tools are not explicitly designed for regenerative grazing management. But if you're in the market for a nifty tool that can ease one fencing challenge or another, Pierce has some insight into Batt-Latches, Tumblewheels and the Razer Grazer trailer.

COMPLEMENTING THE RANCH'S CONTEXT

Situated along the Red River on the border with Texas, Red River Ranch is Noble's southernmost ranch. The ranch's gently rolling land is predominantly introduced pastures and grazed cropland that was managed conventionally until 2021, when Noble converted to



regenerative management on all of its ranches. The long-term objective is to restore native grasses on the ranch through regenerative management.

Red River Ranch benefits from existing electrified exterior fences, which makes several paddocks – those on flat ground without trees – well suited for Gallagher's Tumblewheels, an innovative replacement for traditional temporary fenceposts.

Each Tumblewheel's six aluminum spokes roll across pastures when strung through the middle with a taut hot wire. They've become a great option for Pierce to section off grazing paddocks.

"They worked great there because the fences are not too long; they're pretty square; and there aren't a lot of obstacles," says Pierce. He says he found that a quarter-mile stretch of temporary fence is too long to use Tumblewheels, but they work well for fences up to around 700 to 800 feet. To expand the grazing paddock for the

herd of cows, Pierce releases the fence-line handle from the hot wire and walks forward. The Tumblewheels holding the wire follow behind him, turning spoke over spoke. He reclaims the handle, walks to the other side of the paddock and repeats his forward walk to even out the fence line.

Pierce says they are easy to use when setting up interior temporary fence lines. But getting Tumblewheels to and from pastures requires a vehicle with enough capacity.

"They don't stack well, so hauling them to the field can be cumbersome," Pierce says, motioning to the utility vehicle with a small cargo area he typically uses. A truck bed or small trailer would be better suited to carry enough to make a fence line.

The Tumblewheels work well in most areas of Red River Ranch with existing electrified perimeter fence. However, there are times when a different new-to-Noble tool comes in handy.

FROM OUR RANCHES



RANGE ROLLER

Tumblewheels have helped Kevin Pierce and his crew section off grazing paddocks. Their six aluminum spokes roll along as Pierce moves the fenceline, then the wheels act as the fencepost when stationary. The electrified polywire runs through the center.



FROM OUR RANCHES

Kye Hennington sets posts for a temporary fence (top), while Kevin Pierce uses the all-in-one Razer Grazer trailer, seen here holding a supply of posts between the automatic reel winders and behind the solar-powered battery unit.

PIVOTING IN AN EMERGENCY

When building an interior fence at Red River Ranch, Pierce and his team can almost always tie off to an existing electrified fence. However, he has found the all-in-one Razer Grazer to be a useful tool when circumstances change.

“About a month ago, the river flooded the bottom of the pasture down there,” Pierce says, pointing out the southern portion of the ranch. “It took out some of the fence, and some fence chargers were underwater, so we had to cut power to them. We took the Razer Grazer down there and set up temporary fences. We made some really long fences — about a mile long — which is when having the automatic reel winder on there is really nice.”

Building electric fence when the power goes out or where electricity doesn't exist is the biggest benefit of the Razer Grazer. The portable, solar-powered trailer meant Pierce could stick to his grazing plan even when nature intervened.

To use the Razer Grazer trailer, Pierce sets the fence with an end post or ties off to a tree. Then he drives the fence line in the UTV as the wire unspools off the trailer behind him. Once the fence is up, he unhooks the trailer, sets the ground wire and flips on the charger. Then he returns to his fence line and adds posts.

The trailer has just about everything a rancher needs to build a fence: 80 pigtail, step-in posts; a 12-volt powered reel; and a 50-watt solar panel powering a 12-volt deep-cycle battery, which energizes fences with up to three joules.

The Red River Ranch team typically wouldn't have a strong need for such an intricate fencing tool, but Pierce was happy to have it during the flood and acknowledges the value it could provide on other ranches.

“I could see how at some ranches — folks with permanent barbed-wire fences, not hot wire — this would be extremely beneficial,” says Pierce, thinking of his colleagues at Noble's Oswalt



Ranch. Though he's not sure how the trailer would handle the rougher terrain of those ranches. “Maybe there would be different learning curves to using it on rocky or hilly land,” he says.

MAN VERSUS MACHINE

When asked if he would purchase these specialized fencing tools for his own ranch, Pierce has mixed feelings.

On one hand, he's built fences manually for decades, without the need for these tools. But he's also getting older.

“It may take a bit more time to build a fence with the Razer Grazer, but it makes it easier in my opinion. Especially for the reeling-up part,” says Pierce. “A young person may think it's faster to build a fence manually. But at my age, it saves my arms a bit from cramping.”



The Batt-Latch gate release can be programmed to open paddock gates at set times, letting the cattle move themselves to fresh grass in the next paddock. Batt-Latch charges itself, too, using a solar panel.



Leveraging new technology to ease the workload on the ranch isn't new. Ranchers have improvised and found workarounds for generations.

Despite being troublesome to stack and haul, the Tumblewheels are a time-saver when Pierce is moving cattle through a pasture in smaller paddocks over several days, as he only has to build the fence once. However, it's not a tool Pierce thinks would work everywhere.

"The Tumblewheels work really well in smaller areas if the grass is not too tall and there aren't any ground obstacles. I think producers with smaller acres could find this to be a great tool," says Pierce.

Perhaps the handiest tool for adaptive multi-paddock grazing is the Batt-Latch gate release. Pierce tried it for the first time when he was under a strict grazing protocol for the Metrics, Management, & Monitoring (3M) Project, one of Noble's research studies.

"We were moving cattle four times a day: 7 a.m., 11 a.m., 3 p.m. and 7 p.m. We set this up so it would open the gate, and the cows could move themselves at 7 p.m.," says Pierce. "They have a solar panel on them, so they charge on their own. As far as I know, we've never changed the battery on this one."

Leveraging new technology to ease the workload on the ranch isn't new. Ranchers have improvised and found workarounds for generations. In Pierce's eyes, none of these tools are essential. Sometimes he'd just prefer to build a fence the old-fashioned way, the way he's done for decades, developing efficiency through experience. But, he admits, it's nice to plug in these resources when they make sense for a ranch's context and budget. 🌱

Noble Research Institute did not receive any compensation or other benefit for reviewing these products.

REGENERATIVELY SPEAKING

▲ A bison enjoys a morning mouthful of grass.

FORCE OF NATURE

Texas Trio Aims to Bring Regenerative Meats to American Dinner Tables

THREE VETERAN ENTREPRENEURS, fresh off selling a startup to General Mills, are launching Force of Nature Meats — a regenerative meat venture based just outside Austin, Texas. They're grazing bison, turkeys, wild boar and more across roughly 900 acres, aiming to revolutionize America's dinner tables with high-quality grass- and pasture-fed meat as they revitalize the soil. 🌱

READ MORE:



RANCH FAMILY SUCCESS STORIES

Profit: Price Minus Production Cost

IN THIS FARM FUTURES ARTICLE,

South Dakota farmer Jared Knock shares how integrating livestock, no-till and grazing boosted profits on his poor-performing acres, while Hugh Aljoe and Joe Pokay discuss Noble's hands-on approach to researching how to turn a profit while regenerating rangeland. 🌱

READ MORE:



Water Systems for Beef Cattle

From the Canadian Beef Cattle Research Council comes a comprehensive online resource to help cattle producers understand and provide the fresh, clean water their animals need for optimum health and performance. 🌱

READ MORE:



Stories of Regeneration: North Dakota

This new video from Kiss the Ground introduces you to neighboring farmers in Leonard, North Dakota, who discovered a way to farm that could save our soil while feeding our world. They partnered together to regenerate each other's land through sharing resources, ideas and even cattle. 🌱

WATCH



REGENERATIVELY SPEAKING

SOCIAL MEDIA ACCOUNTS TO FOLLOW

From Our Feeds

Get info and inspiration from what other regenerative ranchers and like-minded peers are saying.

THE PRAIRIE PROJECT, **INSTAGRAM**

A nonprofit collaboration among Texas A&M, Oklahoma State and the University of Nebraska, The Prairie Project fosters sustainable rangelands by researching and teaching about fire, grazing and grasslands.

[instagram.com/prairierestored](https://www.instagram.com/prairierestored)

RANCHWORTHY, **YOUTUBE**

This recently launched show comes from host Emma Coffman of Double E Ranch. She chats with ranchers across the country to tell the real story of ranching, told by those who live it. Each episode features in-depth interviews with ranchers, innovators and thought-leaders shaping the future of agriculture.

[youtube.com/@ranchworthy](https://www.youtube.com/@ranchworthy)

COWGIRLS OVER COFFEE, **FACEBOOK**

Nebraska rancher and entrepreneur Thea Larson founded Cowgirls Over Coffee as a space for women to connect, learn and thrive. The membership-based cohort shares inspirational and actionable advice, plus links to their podcast and events.

[facebook.com/cowgirlsovercoffee](https://www.facebook.com/cowgirlsovercoffee)

THE GRASS WHISPERER, **INSTAGRAM**

Troy Bishopp, aka The Grass Whisperer, shares grazing plans and results mixed in with philosophical and inspiring writing and images from his Deansboro, NY, farm.

[instagram.com/thegrasswhisperer63](https://www.instagram.com/thegrasswhisperer63)

GLOBAL GRAZING

Atkins Ranch Lamb Market Grows with Regenerative Ag Practices

THE 100-PLUS FARMER-STAKEHOLDERS of

Atkins Ranch in New Zealand not only export premium, grass-fed lamb to the U.S., but also willingly share their knowledge about regenerative production of sheep and cattle with producers here. Through rotational grazing, high welfare standards and a verified regenerative certification program, the ranch's model supports soil restoration, carbon sequestration and economic diversity. 🌱

READ MORE:



How Deep Do Your Roots Go?

How deep do your roots go? Explore the powerful, nearly 17-foot root systems of native prairie grasses and wildflowers that help sequester carbon, reduce runoff and bolster drought resilience. Up to 90% of these species thrive underground — where the real ecosystem magic happens. 🌱

READ MORE:



3 Podcast Episodes To Listen To

Listen to these recommended episodes on your favorite podcast app.



AMERICAN NATIONAL CATTLEWOMEN

Regenerative Agriculture featuring Noble Research Institute

Kacie Scherler, fifth-generation rancher from southwest Oklahoma and regenerative ranching advisor at Noble Research Institute, joins host Nicki Nimlos to discuss working with nature to maximize your land's potential.



CASUAL CATTLE CONVERSATIONS

Breaking Down Profitability: Expenses, Goals and a Path Forward

Patrick Jones, regenerative ranching advisor at Noble Research Institute, shares common profitability mistakes made by ranchers and tips for how to move forward with host Shaye Koester-Wanner.



REGENERATIVE AG PODCAST

E159: Preserving Family Farms Through Effective Communication with Vance Crowe

Host John Kempf chats with Vance Crowe, a former farm kid and founder of Legacy Interviews. Crowe believes that the key to preserving multi-generational farms is for farmers to communicate better, especially within their own families.



NOBLE RESEARCH INSTITUTE'S

Upcoming Courses



NobleLand ESSENTIALS

Harness the power in your soil for better forage, better livestock and better returns.



NOV. 11-12
Bluffton, GA

MAY 12-13
Ardmore, OK

Noble Profitability ESSENTIALS

Improve your business skills with financial tools to maximize your ranch's profitability.



OCT. 20-21
Elkhorn, WI

FEB. 4-5
Ardmore, OK

Business OF Grazing

Discover how to make your grazing strategies work for your bottom line.



OCT. 14-16
Ardmore, OK

NOV. 18-20
Winter Garden, FL

JAN. 21-23
Bossier City, LA

MarketSMART RANCHING

Learn how to build skills and confidence for evaluating livestock and other assets in today's market conditions.



OCT. 14-15
McKinney, TX

MAY 21-22
Ardmore, OK

Land Stewardship

By Noble Research Institute and Certified Angus Beef

FREE, ONLINE COURSE

Designed for cattle producers looking to strengthen their land management practices, improve soil health and lay the foundation for a more profitable and resilient ranch.





CONNECTING FIELD OBSERVATION AND SOIL TEST RESULTS

NEW NOBLE RESEARCH STUDY ties what you can see
above ground to the health of your soils.

BY LAURA BRENNER

Healthy soil is more than dirt. It's a living system that supports plant growth, retains water and stores carbon.

Within the multi-year Metrics, Management, & Monitoring (3M) project, a months-long study from Noble's research team found visible signs of ecological health — such as plant diversity and fast water infiltration — can tell ranchers a lot about what's happening beneath the surface. In this summary of the report "Can Ecological Outcomes Be Used to Assess Soil Health?," our researchers share their findings of practical ways ranchers can evaluate the health of their soils without relying solely on expensive lab tests.

LEARNING TO UNDERSTAND SOIL

The land tells a story for observant ranchers and land managers. Whether it's through the health of forage, how long water puddles last after rain or the variety of plant species you see across your pastures, the clues are there. The ecological outcomes report shared that these above-ground signs are tightly connected to the biology below the surface and can serve as a proxy for soil health.

Researchers collected hundreds of visual observations and 64 soil samples on 22 ranches across different climates and landscapes in Oklahoma and Texas to compare lab test results with ecological outcome verification (EOV), or what they could observe on site. EOV looks at a variety of factors, including live canopy cover, plant community composition by functional group, microfauna, litter and dung decomposition, erosion and soil crusting. These indicators are grouped into four categories: water cycling, mineral cycling, energy cycling and plant biodiversity.

Researchers compared those observations to soil sample test results using both the Haney soil health test and the phospholipid fatty acid (PLFA) test, which together measure microbial activity, organic matter and carbon levels. What they found confirms what many experienced land managers already suspect: The healthiest soils are alive with microbes, fed by diverse plants and shaped by how we manage the land.

Noble systems research manager Isabella Maciel says she believes the findings of this research are valuable for every rancher interested in improving soil health and forage productivity.

"No one knows the land better than the person walking it every day," Maciel says. "Careful observation — the diversity of the grass, the feel and smell of the soil, the behavior of livestock — tells a story no test can fully capture. Trusting your eyes and instincts can guide decisions that build healthier soils and more resilient pastures."



Noble research services associate Kevin Lynch and systems research manager Isabella Maciel collect ecological outcomes verification data on The Bergen Ranch near Sulphur, Oklahoma.

KEY LESSONS FROM THE GROUND UP

Healthy soil is teeming with life. Microbes — tiny living organisms like bacteria and fungi — play a vital role in breaking down organic matter, releasing nutrients and supporting plant growth. The study found that soils with more microbial activity tended to have stronger scores for water and energy cycling, meaning they supported more resilient and productive ecosystems.

These microbes thrive when they have food (organic matter) and air (via porous soil). That's why practices that reduce soil disturbance and keep roots in the ground year-round are so important.

Plant diversity is a strong predictor of microbial activity. The study showed that the more plant diversity ranchers had in their pastures, the better their soil performed in the lab. Soils from fields with a variety of grasses, legumes and broad-leaf plants had higher levels of organic carbon and microbial biomass. Why? Because different plants support different microbes and, together, they build a stronger soil community.

Diverse plant roots also feed soil life more evenly over the year, better protect against erosion and help soils hold more water than monocultures do.

One of the simplest field tests — watching how quickly water soaks into the soil — turned out to be one of the most reliable indicators of soil health. Fast infiltration rates were linked to higher microbial activity and more available carbon in the soil. That's because well-structured soils, rich in organic matter and teeming with roots, have better pore space for water and air.

The study also highlighted the role of arbuscular mycorrhizal fungi — tiny root-associated fungi that help plants take up water and nutrients. Fields with higher levels of these fungi showed better performance in water cycling. Keeping perennial roots in the ground and reducing chemical inputs can help these beneficial fungi thrive.



WHAT YOU CAN DO ON YOUR RANCH TODAY

This research wasn't just for scientists — it was designed with land managers in mind. Here are a few practical ways to take these lessons from the lab and put them into action on your farm or ranch:



START WITH OBSERVATION

Walk your land regularly. Notice how water behaves after rain, what kinds of plants are growing and how evenly your pastures recover after grazing. Use tools like infiltration rings or a shovel to get a feel for your soil's condition.



BUILD PLANT DIVERSITY

If your pastures are dominated by one or two species, consider overseeding with a diverse mix of grasses, legumes and forbs. Diversity promotes resilience, especially during extreme weather.



REDUCE SOIL DISTURBANCE

Avoid overgrazing and minimize tillage to protect soil structure and microbial life. Where possible, keep living roots in the soil year-round.



FOCUS ON ORGANIC MATTER

Use practices like adaptive grazing, cover cropping and compost application to increase soil organic matter. More organic matter means better water retention, more microbial activity and healthier plants.



USE MONITORING TOOLS WISELY

While lab tests like Haney or PLFA analysis provide useful information, they are more powerful when combined with visual indicators, such as water infiltration and plant diversity, which offer real-time feedback you can act on right away.

Soil health doesn't have to be a mystery, nor do you have to invest in a soil test every time you want to know how you're doing. By paying close attention to what's happening above ground, ranchers and farmers can gain valuable insight into what's happening below. The key is understanding that soil is alive, and its health depends on thoughtful management decisions based on active observation.

Whether you're managing 50 acres or 5,000, small changes — like increasing plant variety and reducing bare ground — can make a big difference. Healthy soil is the foundation for a resilient future, and it starts with listening to the land. 🌱



Observe and take notes as you walk your land, noting such things as plant species, water behavior after rain, and grass recovery after grazing.

SCAN TO READ THE
FULL REPORT:



80

Years and Counting: Noble Celebrates Voices from the Land

RANCHERS SHARE THEIR MEMORIES of working with Noble staff and the lessons they've carried with them through the years.

BY LAURA BRENNER

O

n Sept. 19, 1945, Lloyd Noble founded The Samuel Roberts Noble Foundation to help revitalize agriculture after the Dust Bowl. Eighty years later, Noble Research

Institute carries on our founder's vision to safeguard the soil and help agricultural producers advance land stewardship practices.

To celebrate Noble's eight decades of research, collaboration and producer guidance, we've asked a few folks to share the history of Noble based on how the organization has influenced their lives and ranches. Each rancher's responses are presented in his or her own words, lightly edited for length and clarity.

William C. & Ian Chapman - Chapman Ranch & 4C Ranches

Locations and years ranching:

Russett, OK, and Red River County, TX. William, ranching 60 years. His son, Ian, ranching 34 years.

Q: *Do you remember your first experience with Noble?*

William: As an Ardmore native, I always knew about The Noble Foundation and interacted with the Noble family from time to time. When I came back in the early '60s, the national beef industry was transitioning from a farmer/feeder system to a large-volume feedlot system. Many of the producers in southern Oklahoma would sell their calves upon weaning (around 500 pounds), and they would be sent to the farm-belt states to our north where individual farmers would fatten and feed them out to a finished weight. As the western feedlots grew during the 1960s, they wanted an animal more in the 750-to-800-pound category. To help local producers meet this need, Noble helped us transition some of our land into fall-planted winter wheat and educated us on how to graze out stocker calves on that wheat. It was a fairly new concept. Planting and growing the green pasture was new to many of us who had been traditional cow/calf operations utilizing native grass pasture. The needs, nutritional and veterinarian, of an older, larger calf were also different. Noble helped me navigate all of these things in my early years back on the ranch.

Ian: When I came back from college in the early 1990s, the concept of rotational grazing was becoming commonplace. Noble was instrumental in helping us understand the benefits of rotational grazing and how to best

implement those concepts on our ranch. I spent a large part of my first decade back putting some of the concepts of rotational grazing into practice. We were able to increase our numbers while maintaining or improving the quality of both our herd and our land.

Q: *What benefits did you experience from working with Noble?*

William: Education. While my family was actively involved in agriculture, I grew up in town. I spent summers out on the ranch. I went to Ardmore High School, which did not have an FFA chapter or any agricultural education. Then, I went to Trinity University and the University of Oklahoma for undergraduate and law school. Again, no ag education. So, when I came home in 1964 (after military service and getting married) to become involved

in the daily operation of our properties, I found Noble to be an incredible educational resource. I was able to use my relationships with Noble's professional team members to grow my real-world knowledge of agriculture and beef production.

Q: *Is there one memorable experience or story that stands out when you think about Noble?*

William: As part of the shift to a stocker operation, Noble sponsored trips out west to feedlots and processors. These trips gave us, the producers, the opportunity to be shown what type of cattle the feedlots were looking for and to understand why. For me, this hands-on experience and education as to what our customer wanted was extremely helpful in understanding the production and management changes Noble was suggesting.





Chuck Trowbridge - Prairie Farmstead

Location and years ranching:
Sherman, TX. Eight years ranching.

Q: *How did you first hear about Noble?*

A: It was a referral from another local producer in Sherman. I met some Noble folks at a field trial for winter forages here in Sherman. Soon after, they came to our place to help do a forage evaluation and make some suggestions on implementing our goals.

Q: *What benefits did you experience from working with Noble?*

A: They really helped me understand what resources I had available on this operation after moving here from out of state. They also opened my eyes to forage options and helped ignite my passion for soil health.

Q: *Is there one memorable experience or story that stands out when you think about Noble?*

A: Having two or three of their consultants on my operation and bouncing ideas around with me, along with challenging my paradigms, professionally and kindly.

Q: *What gives you hope for the future of American agriculture?*

A: More operators and consumers waking up to the fact that the status quo is degenerative and harmful to the land, livestock and consumer. More young people are getting interested in what we are doing.

Jimmy & Ginger Emmons - Emmons Farms & Ranch

Location and years ranching:

Leedey, OK. Our family came here in 1926. I have been ranching for 50 years.

Q: *How did you first hear about Noble?*

A: I first heard of Noble Foundation through friends in or around Ardmore. The first time I worked with Jim Johnson at Noble was in 2012 as we began our soil-health journey.

Q: *What benefits did you experience from working with Noble?*

A: I learned so much from Jim, Hugh Aljoe and many others as we tested our soil, looked at the soil and carbon moving down through the profile. My soils became alive, and we could see it, thanks to Noble.

Q: *Is there one memorable experience or story that stands out when you think about Noble?*

A: The one thing that sticks out is our wildfire in 2018. Some of the first calls I received were from Jim Johnson and Bill Buckner (Noble CEO at the time). They drove up with generators, fuel and tools to help us move cattle out of the burning areas. Then they brought the film crew up a few weeks later and filmed "From The Ashes." It is on YouTube and has seen many, many views.

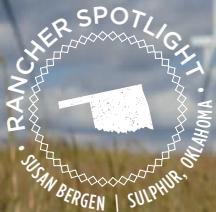
Q: *What gives you hope for the future of American agriculture?*

A: Noble Research Institute has made the commitment to helping ranchers understand soil and how important soil health is to everything we do. The new classes they have developed are phenomenally in-depth on management of soil, ranching and profitability, all focused on the good work in regenerative agriculture. Together we will all grow and learn

how to sustain our resources and regenerate them back from death of overuse and abuse. We need to quit being afraid of what might happen and get excited about what will happen if we learn how to regenerate our land and work with it to succeed.

SCAN TO WATCH "FROM THE
ASHES," A FILM ABOUT THE
EMMONS' HOPE AFTER FIRE.





Susan Bergen - Bergen Enterprises

Location and years ranching: Family ranch in Sulphur, OK, for 38 years and operated a four-season orchard and farm in Stratford, OK, from 2003-2016.

Q: *Do you remember your first experience with Noble?*

A: It is interesting to think back to my first meeting with the great folks at Noble Foundation. It seems like they have always supported me. Dr. Eddie Funderburg came to Stratford and helped me understand soil health. Then Steve Upson collaborated with me, including hosting field days to teach folks how to build hoop houses, among other things. They also helped me source materials for the farm as well as brainstorm systems to manage a large fruit and vegetable operation.

Q: *What benefits did you experience from working with Noble?*

A: So many times in agriculture, you need a question answered fairly quickly and a qualified person to talk over options with. This was before the internet, sometimes even before cell phones, so the help was essential for complex operational issues. For instance, Noble had an expert from Israel teach me how to harvest basil at the correct time for shipping success. It became a huge profit center for our farm. Our Stratford location provided 300 acres of vegetables for the statewide farm-to-school program at that time.

Q: *Is there one memorable experience or story that stands out when you think about Noble?*

A: It was an honor to join Noble's board of directors and staff for a training program, hosted by Noble and including Understanding Ag, in 2021. That program spurred a shocking change in my thinking and management of our ranching system. I wholeheartedly believed what was so patiently explained that I went home to implement it right away. The next three years we suffered through drought where we ranch. Without the specific practices that were taught, we would have experienced significant pressure on the cow herd. The skills were taught so well, and the dialogue between ranchers was so essential to my understanding. Now I can accurately measure and forecast forage. The system involves a simple math equation, and even today I can hear them saying, "Ranch for what you want. Stop looking for a problem. Focus on forward progress."

Q: *What gives you hope for the future of American agriculture?*

A: I do not believe we are at the tipping point of forward progress yet, but with the help of satellite imagery and quantification of carbon stores, we will really be able to incentivize best practices. I am forever grateful for the knowledge given and soil health material that Noble publishes.



Steve Howard - Howard Cattle Company / Howard Ranches

Location and years ranching:
Claypool, OK. Steve's great-grand-
father, Noah Howard, started the ranch
in 1888. Steve, nearly 50 years ranching.

Q: *Do you remember your first
experience with Noble?*

A: We first heard about the Noble
Foundation in the 1980s when
George Hedger came out to look at
our pecans and offer advice on how to
harvest and care for them.

In addition, I remember these fine
men and the wealth of knowledge they
provided for our ranch: Jim Pumphrey,
cattle/horses; Shan Ingram, cattle;
Fred Schmedt, wheat; Jim Johnson,

no-till farming; Scott Landgraf, pecans;
and Hugh Aljoe, soil health.

Jim Johnson, who introduced us to
no-till/minimum-till farming, was revo-
lutionary in our farming operation.

Q: *What benefits did you experi-
ence from working with Noble?*

A: Field trips to other ranches/
farms/wheat fields/pecan
groves. Workshops and presentations,
including those by Temple Grandin and
Baxter Black at the Southern Plains
Beef Symposium. Noble also taught
us about pest and weed control in our
wheat fields and pecan orchards, help-
ing us maximize every acre.

Q: *Is there one memorable expe-
rience or story that stands out
when you think about Noble?*

A: A recent memorable experience
is when I asked Hugh Aljoe to
assess a place I bought in 2022. This
land was depleted of grass. His advice
was for me to plant small grains to
cover the bare ground. I implemented
his plan, and he would not recognize
this place at present. I run hundreds of
head of cattle through these pastures,
along with cutting hay and providing

pasture for my daughter's mini-Here-
ford herd and my youngest son's herd
of Simmental heifers and calves.

Another memorable experience pro-
vided by the Noble Foundation is when
they held the Junior Beef Excellence Pro-
gram. All four of our children got to enter
cattle into this carcass contest, and the
meeting and information provided much
insight into how to grow quality beef.

AgVenture is another program the
Noble Foundation offered (our oldest son
attended in 2006), which allowed high
school students the ability to connect
with each other over their shared interest
in agriculture. The experiences included
tours and workshops to cultivate and
spark that interest in our youth so that
the agricultural lifestyle is sustained.

Q: *What gives you hope for the
future of American agriculture?*

A: My hope is that our youth will
continue to believe in reasons to
become stewards of the land and the
agricultural industry. Our youngest son
will graduate from high school in 2026;
he has plans to apply for the Sam Noble
Scholarship to continue his education
at Oklahoma State University, with a
double major in agricultural business
and agricultural communications. 🌾



TIMBER, CATTLE and A CENTURY of CARE

GEORGE OWENS' INNOVATIVE SILVOPASTURE SYSTEM has transformed 500 acres in Florida into a thriving balance of productivity, wildlife and generational care.

BY MADDY BEZNER

George Owens manages around 500 acres of combined pasture and pine trees in Chipley, Florida. He practices silvopasture, a sustainable approach that integrates live-stock grazing with timber production. His family has stewarded this land since the late 1800s, when his great-great-grandfather homesteaded it.

By the time Owens inherited the farm in 1971, traditional farming methods were no longer economically viable. The expenses associated with row-crop farming — peanuts, cotton, corn and soybeans — such as equipment maintenance and labor costs, were rising faster than revenue. He realized a change was necessary.

"I decided I'd have to do something with the land to give it revenue annually as well as revenue long-term," Owens says.

His wife, Pat, an accountant, highlighted the urgency of finding a financially sustainable solution to avoid losing parts of their family's land.

Owens first encountered silvopasture through his work at the Florida Department of Agriculture. Although this integrated practice was well-established in South America, it was virtually unknown in the United States at that time. The concept of earning dual incomes — from both timber and live-stock — immediately appealed to the Owens, who established their first silvopasture plot in 1984.

*George Owens rocking on the porch
of the restored Quail Nest Plantation
lodge on his Chipley, Florida, farm.*





Adopting silvopasture significantly stabilized and boosted the economic prospects of Owens' farm. Combining timber and cattle production has diversified income sources, reducing overall financial risk.



"We were coming back from Lake City, and I told my wife, 'We can make this work,'" Owens recalls. Despite initial skepticism from local foresters, who doubted the feasibility of combining cattle and trees, and from ranchers, who viewed trees as obstacles, he persisted. He began carefully planning and implementing the silvopasture model on his land.

BUILDING A BALANCED SYSTEM

Owens experimented extensively to identify the most effective configuration for his silvopasture system. Ultimately, he adopted a "4 x 8 x 40" planting arrangement — double rows 4 feet apart, planted with pine trees spaced 8 feet apart, with 40-foot forage alleys between the pairs of tree rows for grazing. This spacing allowed sufficient sunlight to sustain healthy grass growth, which is crucial for cattle nutrition.

"Soil health is a big issue in silvopasture," Owens says. He implemented a rotational grazing system to ensure pasture health, allowing grasses to fully regenerate between grazing cycles. His practice involves removing approximately half the available forage during grazing rotations, thus protecting soil and plant health.

He also introduced clover and ryegrass to diversify and enhance the quality of pasture forage. This inclusion improved livestock nutrition and provided essential habitat for various wildlife species.

"It's very, very optimal for all kinds of wildlife," he says. Owens regularly observes increased wildlife populations, including deer, quail and diverse bird species, which thrive in the rich habitat created by his management practices.

Adopting silvopasture significantly stabilized and boosted the economic prospects of his farm. Combining timber and cattle production has diversified income sources, reducing overall financial risk.

Owens explains the advantage of the dual-market approach. "When timber prices are high, cattle prices are usually low and vice versa. This system balances that out."

Efficient timber harvesting practices on the farm add another layer of eco-



[Left] Rotational grazing and diverse forage species improve the health of Owens' cattle and soil. [Top] George Owens cuts through a section of fence to restore a connection to a polywire gate, just as afternoon showers arrive. [Bottom] Nearly every morning, Owens (left) and friends gather at Hardee's for biscuits, coffee and conversation.

nomie benefit. Because silvopasture management reduces soil disruption and facilitates easy access, harvesting timber is straightforward and cost-effective. Owens compares harvesting timber on his farm to "logging in a state park," with minimal impact on the land.

The presence of mature, managed trees significantly enhances the property's market value.

"Land with trees for shade or a home site is probably worth 30% more than open bare land," he says.

PREPARING FOR THE NEXT GENERATION

Owens' innovative approach has turned his farm into a hub of learning and collaboration. Agricultural researchers, students and ranchers

SOUTHERN SYNERGY

Cattle graze in front of rows of young pine trees on the George C. Owens Farm in Florida. His way of combining cattle with timber, in what is the longest-operating pine-belt silvopasture system in the Southeast, provides multiple income streams while building soil health and benefiting both livestock and wildlife.







[Above] A calf pauses while nursing in the abundant shade provided by the rows of tall pines growing on Owens' farm. [Right] Cattle egrets take flight as George Owens drives through his verdant silvopasture. Many wildlife species flourish on the 500-acre property.

interested in silvopasture frequently visit his operation. His farm has become an important site for practical demonstrations and research conducted by universities such as Auburn and the University of Florida.

Owens actively shares his insights and experiences, offering guidance to those considering silvopasture. He advises newcomers to start cautiously and grow incrementally.

"If you're going to try this, start small. Do 10 acres, do 30 acres — whatever you want. But you've got to be willing to think differently."

Initially, the agricultural community met Owens' innovative ideas with resistance and skepticism. However, attitudes have gradually shifted over the decades as the success and practicality of his approach became evident.

Owens notes this significant change. "There's a tremendous difference in the attitude of the communities. We've got a lot more younger people thinking outside the box."

The long-term sustainability and continuity of his operation is a priority for Owens and his family.

"If you're going to try this, start small. Do 10 acres, do 30 acres — whatever you want. But you've got to be willing to think differently."

—GEORGE OWENS

"This land is in a succession plan — I've deeded it to my children. They'll be the generation farming this place," he explains.

This careful planning ensures that Owens' family legacy will continue, with future generations benefiting from his diligent stewardship. By integrating sustainable practices, economic resilience and community engagement, he has created a lasting model for others to follow.

Looking back, Owens acknowledges the many lessons learned throughout his journey in silvopasture. The initial trials and skepticism helped him become more innovative and persistent.

"Everything was a challenge," he recalls, emphasizing the importance of patience and adaptability.

One of Owens' hard-won lessons is the unpredictability of land values and the importance of investment foresight. He says he wishes he had acquired more land earlier, given how dramatically values have increased over time.

"If I knew in 1971 what I know today, I'd have bought more land." 🌱





★★★ Grazing for ★★★ NATIONAL SECURITY



Army Maj. Eric Czaja moves cattle to a fresh grazing paddock as part of the innovative Regenerative Grazing Open Air Lab project in progress on 2,500 acres of military land at Camp San Luis Obispo.

AT A CALIFORNIA TRAINING BASE, a bold experiment shows how cattle can make military lands healthier, safer and more resilient.

BY MADDY BEZNER

When Army Maj. Eric Czaja thinks about America's military readiness, he doesn't just think about soldiers, weapons or strategy. He thinks about soil.

"We are grazing for national security," Czaja says. "We are creating installations that can withstand the punishment we dish out in our training. We can do that with livestock as a tool."

Czaja leads the Regenerative Grazing Open Air Lab (R-GOAL) at the Naval Postgraduate School, a proof-of-concept initiative launched in September 2024 on 2,500 acres at Camp San Luis Obispo, California. His mission? To prove that adaptive multi-paddock grazing doesn't just build healthier ecosystems in nature, it also enhances military effectiveness among the troops.

It's a bold idea: Use livestock to improve soil health, reduce wildfire risk and increase operational utility on Department of Defense (DOD) land. With more than 26 million acres under DOD management, Czaja sees an untapped opportunity to align regenerative ranching with national defense.



FROM SPECIAL FORCES TO SOIL STEWARDSHIP

Czaja didn't grow up ranching. He spent his summers on Wisconsin dairies baling hay and cleaning stalls, but agriculture didn't call to him as a career. What did call to him was service. He joined the Army through ROTC in college, was commissioned as an infantryman and later earned a coveted spot in the Green Berets, deploying throughout Africa and Afghanistan.

"I wanted to see the world," he says. "The military seemed like the best way to do that."

It was during his overseas deployments that Czaja began noticing patterns. In parts of Africa, he witnessed how land degradation, drought and food scarcity directly affected local security forces' ability to operate.

"They didn't have resources like we do," he explains. "If there was a drought, they couldn't train. They couldn't eat. They relied entirely on local farmers."

One day, while training on a machine-gun range in Africa, Czaja noticed grass towering over their heads.

"We needed a clear line of sight," he recalls, "and they told us they'd clear it in a few days. But there were no tractors, no bush hogs, just kids with sticks and cows. A few days later, the grass was mowed down by local cattle. That's when I started thinking, 'Why aren't we doing this on our own training lands?'"

That question followed him back to North Carolina, where he and his family began homesteading. Czaja dove into regenerative agriculture. Cows, pigs, chickens, turkeys — all moving together across pastures, mimicking nature. He became obsessed with soil health.

[Top] At left, Army Maj. Eric Czaja, who heads the R-GOAL at the Naval Postgraduate School, shares laughs and a few stories with Gus Nelson, a retired Marine Corps A-4 pilot, and local NPR correspondent and Air Force retiree Tom Wilmer. The men met up during lunch at the Camp San Luis Obispo dining hall.

[Bottom] From left, Tom Shea of the National Grazing Lands Coalition, and his wife, veterinarian Magda Kokinos, tour R-GOAL grazing paddocks and talk shop with Czaja and his daughter Emmalyn, 7, along with Marine Corps Cpl. Laurian Cardenas.



Using a side-by-side equipped with fencing gear, Army Maj. Eric Czaja and Marine Corps Cpl. Laurian Cardenas work to move paddock fences for rotational grazing on the base.



“This is how we should be managing the huge landscapes we have access to [in the military],” he says.

Czaja saw regenerative grazing as more than an environmental tool. It was a strategic one. In Afghanistan, he saw the opposite of what he had witnessed in Africa: heavy dependence on fertilizer, pesticide and centralized food distribution. When the rains came, degraded land turned to mud. Roads washed out. Operations halted.

“We had to reroute missions because roads were gone,” Czaja says. “That’s

when I realized that how we manage land actually matters from a national security standpoint.”

That conviction led to his thesis at the Naval Postgraduate School. His paper, “Send in the Cows: Regenerative Grazing Creating Resilient Installations,” posed the question: Could the Army use livestock to manage its land more effectively?

“I reached out to Army Environmental Command and said, ‘I’m thinking about writing a thesis on this. Do you have anyone I can talk to about

grazing?’ They sent me to Matt Mattox, a former Noble Ag consultant, who introduced me to Hugh Aljoe at Noble Research Institute. Hugh told me, ‘Yes, there is a lot of potential. Keep pushing.’”

GRAZING AS A STRATEGIC AND ECONOMIC SOLUTION

At Camp San Luis Obispo, Czaja is building the model for what regenerative land management could look like

Local rancher Blake Simonin rides up a steep hillside to move cattle to a new grazing paddock at Camp San Luis Obispo. The herd grazing the base as part of the R-GOAL program is owned by the Simonin family's nearby MJM Chandler Ranch at Paso Robles, California.



By grazing down tall, oxidized grasses and forbs (like this patch of curly dock) that would otherwise ignite easily, the cattle play a major role in reducing wildfire risk in high-burn regions on base, such as grenade ranges, impact zones and training areas.



across military bases. With 140 cow-calf pairs rotating daily across small paddocks, the focus is targeted grazing. It's part soil health, part fire prevention.

"At CSLO, the No. 1 concern is fuel load mitigation," he explains. "In order to keep soldiers training, we're using grazing to reduce wildfire risk in high-burn areas like grenade ranges, impact zones and training areas."

The system is working.

"We haven't had any fires since we started," Czaja says. "The plan is to avoid prescribed burns altogether or at least reduce how often we need them."

The cows graze down tall, oxidized grasses that would otherwise ignite easily. And because the herd is so well managed, the cattle can graze during training without disrupting base activities.

"You can walk through the herd of cattle," Czaja laughs. "They'll just look up and go back to grazing."

He emphasizes the flexibility of grazing over other land management tools.

"You can't mow and train at the same time. You can't burn and train at the same time. But you can graze and train simultaneously."

Beyond ecological and tactical benefits, regenerative grazing has economic appeal.

"Every time you turn a tractor on, it loses value," Czaja explains. "But every bite a cow takes, it gains value. We're reducing equipment wear and fuel costs. And instead of paying contractors for mowing or herbicide, we partner with producers who know how to manage livestock regeneratively."

He calls it cost avoidance.

"Grazing isn't going to be a huge moneymaker for the Army, and that's okay. But it's going to save us a lot of money while increasing warfighter readiness. That's the win."

BUILDING THE WORKFORCE BEHIND THE MOVEMENT

Czaja isn't doing this alone. He's partnered with the Hinterland Institute, which is developing a training program for veterans interested in regenerative agriculture. The model allows transitioning service members to spend their

"In order to keep soldiers training, we're using grazing to reduce wildfire risk in high-burn areas like grenade ranges, impact zones and training areas."

—ERIC CZAJA

final three to six months of active duty receiving vocational training in regenerative grazing.

"They're still getting paid by the military. Their healthcare is covered. And they get hands-on, immersive experience that prepares them for careers in land management," Czaja says. "We're creating a cadre of veterans who go from active duty to healing the land through regener-

ative agriculture, continuing their service by restoring ecosystems and purpose.”

Czaja believes veterans are uniquely suited for this work.

“The first principle of soil health is context. Veterans understand the unique context that is military training land. This work is not easy. It requires adaptability, discipline and mission focus. Veterans bring all that.”

The biggest barrier to expansion? People.

“The limiting factor isn’t land. It’s humans. We need more well-trained people who understand both grazing and military culture,” he says. “That’s why partnerships with groups like Noble are so important. They teach more than just grazing — they teach how to make this economically viable.”

Not everyone gets it right away. Czaja admits that introducing cows to military training grounds hasn’t always been an easy sell.

“Some folks cross their arms and shake their heads. They’ve seen degraded training areas where cows caused problems. But grazing is not just grazing,” he says. “It all comes down to management.”

That’s why he brings base leaders out to the site.

“When they see how we move the cows, how we use polywire to control them, how wildlife is returning — that’s when the lightbulbs go off.”

Even the Pentagon has taken notice.

“We brought out a high-level official. The cows were sticking their heads in our UTV. It was wild,” Czaja laughs. “But what stuck with him was the level of control. He saw that we can manage grazing with precision.”

Czaja also sees public storytelling as essential.

“We need to educate policymakers, commanders and the public. That’s

why Noble sharing this story is so important. When people hear that this is already happening, they get more comfortable trying it.”

THE NEXT MISSION

For Czaja, R-GOAL is personal. He sees this work as a bridge from one mission to the next.

“I spent 14 years learning how to close with and destroy the enemy,” he says. “Now I want to promote life.”

“This is what I want to do when I leave the Army. This is what I want to leave for others. A way for veterans to continue serving, to involve their families and to build a livelihood that matters.”

His advice to land managers and fellow soldiers? Start small.

“You don’t have to jump in with both feet. Pick 10% of your operation. Divide it up. Try something new. Let someone show you the difference. Then you’ll start to see what’s possible.”

And what’s possible, if this works?

“We could be building a new generation of land stewards, strengthening national security and making our lands more resilient than ever before. We’re just getting started.”

—ERIC CZAJA

“If we do this right,” Czaja says, “we could be managing over a million acres regeneratively within five years. We could be building a new generation of land stewards, strengthening national security and making our lands more resilient than ever before. We’re just getting started.” 🌱



[Right] Army Maj. Eric Czaja holds his daughter Charlotte, 4, while his daughter Delainey, 2, swings in the background. Czaja and R-GOAL intern Miles Hatch (on left) were diagnosing an issue with one of the ATVs. [Opposite page] With R-GOAL as the model, Czaja believes similar programs could be managing over a million acres of military land regeneratively within five years. With more than 26 million acres under DOD management, he sees an untapped opportunity to align regenerative ranching with national defense.



Photography Tips for Elevating Your Brand

TODAY'S SMARTPHONE CAMERAS

have come a long way. Here are some tips for how to best use yours to tell your ranch's story.

BY ROB MATTSO





Noble researcher Guillermo de Souza Congio uses his smartphone to photograph the terrain and plant species as part of collaborative research on the McGuire Ranch near Bosler, Wyoming.

Human brains are optimized for visual information. We are capable of seeing and understanding six to 12 images in the same amount of time it takes to read and register one word of text. Well-made photographs can multiply the impact of words and brands by informing and enlightening viewers through an emotional response.

Roughly 94% of the 1.9 trillion photos from 2024 were made with a smartphone. It's forecast that these devices will be used to make another 2.1 trillion in 2025. That's a lot of pictures, and the number is only going to get bigger, so it's more important now than ever to produce images that stand out.

Here are a few technical tips and tricks that will immediately make your smartphone photographs better:

1. Clean your lenses with either a microfiber cloth or a 100% cotton shirt that is free of dust and sweat. Fabrics like polyester, fleece, rayon, silk, nylon and blends tend to smear grease and can even add to it.
2. Make sure the brightness of your phone screen is turned all the way up, so you know what you're seeing is what you're getting.
3. Do not zoom with the pinch-zoom function, which is a digital zoom and leaves images soft, pixelated and generally not high quality. Zoom only with your feet when you can (get closer to your subject).
4. Turn off the flash unless absolutely necessary, as it tends to produce red-eye and is otherwise unflattering. If you are making horizontal pictures and it becomes essential to use the flash, consider turning your camera so the flash is above the lens.
5. Consider using the Portrait mode for photographs of groups or individuals. You have to be close enough – 6 to 8 feet – for this function to work, but the results are usually really nice. If you end up disliking the blurring effect this mode creates, it can be reduced or eliminated in your phone's photo-editing app.
6. When using your iPhone camera, a single tap on the screen will produce a yellow box that you can use to adjust exposure (light) and focus on the point where you tapped. Drag your finger up or down to adjust the exposure of the picture.
7. Tap and hold on the iPhone camera screen to produce a yellow box with the words "AE/AF LOCK" (auto exposure/auto focus) at the top of the screen. Not only will this adjust light and focus on the spot you tapped, but it will also stay there for you to shoot until you tap the screen again.
8. If you have enough free space in your phone, turn on the "RAW" option in camera settings. Each photo takes up a bit more storage, but this format retains more data in each photo and gives you more detail in brighter brights and darker shadows.

[Below] Seen through a tiny gap in a tractor's rain-soaked window, a Baldy cow watches Noble ranch manager Chance Tynes unroll a hay bale. Sometimes the best, most compelling way to photograph a scene is to embrace what might otherwise obscure the subject and include it in the photograph.

[Opposite page, clockwise from top left] 1. You can use geometry to isolate a subject, as the spade handle does in this photo, showing us the speaker and providing context for the event. 2. Layers can capture multiple moments in one photo. Layers can be seen along a line or through depth. 3. Use space to give a subject room to breathe, evoke emotion or communicate vastness, as this one does in southern Wyoming. 4. This photo uses the rule of thirds to put the horizon line in the top third and puts the main subject, Texas rancher Emry Birdwell, at one of the intersections of viewfinder lines that divide the image into thirds vertically and horizontally.



THE HUMAN ELEMENT

We can program cameras to read and measure light, focus on faces and automate everything. But we can't teach any camera how to see, think, feel or interpret what we see. And we certainly can't program them to connect with our viewers for us.

That's when photo composition — how we line things up in the frame —

comes into play. I rely on these three elements when it comes to making a great photo: light, moment and composition. Here's how to nail them.

1. **Light:** Smartphones make balancing light easier, but even auto settings can't save a photo shot into the sun. Be sure to keep the light source in front of, above or on the side of your subject, rather than behind it.
2. **Moment:** Telling a story through an image is about capturing the right moment. People don't relate until they see themselves, so we're best served by making pictures that reflect honest moments. Rather than staging a photo, look for candid scenes that reflect the subject's personality. Watch how people interact with others and move in space, try to predict the moment, and don't be afraid to get close or shoot from a new, lower or higher angle.
3. **Composition:** This one is a complex dynamic that varies in the eyes of visual storytellers. Knowing which composition to use and when to use it will

become clearer with practice. Below is a truncated list of compositional guidelines you may find useful when making photos:

- **Isolate Subject:** Use light, color, angle and selective focus to help a subject stand out from its surroundings. This could include using foreground or background elements, lines or peripheral objects to help your subject stand out.
- **Layers:** Be mindful of what is in your fore-, middle and background.
- **Rule of Thirds:** Avoid placing your subject in the middle of your screen. Instead, mentally divide your screen — vertically and horizontally — into thirds and place your subject at intersecting lines.
- **Space:** Give your landscape or subject room to "breathe" visually, and beware of getting so locked into your subject that you forget to consider visual context that can add so much to the story your photo tells. 📸



DO-IT-YOURSELF



IN THE KITCHEN

Harvest Steak and Quinoa Salad

BRING THE FLAVORS OF FALL to your plate with this hearty and colorful recipe. Featuring tender, marinated skirt steak, roasted butternut squash, crisp apples and a tangy raspberry-walnut dressing, this recipe is an ideal make-ahead dish for weeknight dinners or casual autumn gatherings.

INGREDIENTS:

- 1 beef skirt steak (about 1 pound) cut into 4 pieces
- 1 large red apple, unpeeled, coarsely chopped
- ½ cup light raspberry and walnut salad dressing
- 1 cup fat-free crumbled feta cheese (about 4 ounces)
- 4 teaspoons stone-ground mustard
- ¼ cup sliced almonds, toasted
- ½ cup uncooked quinoa
- 2 ½ cups (about 10 ounces) cubed butternut squash (½-inch cubes)
- 5 cups spring salad greens

Marinade Time:
6-24
HOURS

Prep Time:
25
MINUTES

Cook Time:
40
MINUTES

4
SERVINGS

INSTRUCTIONS:

1. Combine salad dressing and mustard in a small bowl. Place beef skirt steak and half of dressing mixture in food-safe plastic or silicone bag; turn to coat the steak. Close bag securely. Marinate in refrigerator 6 to 24 hours, turning occasionally. Cover and refrigerate the remaining dressing.
2. Cook quinoa according to package directions; set aside.
3. Meanwhile, place squash in 2-quart microwave-safe bowl; cover. Microwave on high for 5 minutes. Remove from microwave. Cool; set aside.
4. Remove steak from marinade; discard marinade. Place steak on rack of broiler pan so surface of beef is 2 to 3 inches from heat. Broil 8 to 12 minutes for medium rare (145° F) to medium (160° F) doneness, turning once. Carve steak diagonally across the grain into thin slices.
5. Meanwhile, combine greens, squash, apple, feta cheese and remaining dressing mixture in a large bowl; toss to coat. Place salad on plates. Spoon scant ½ cup cooked quinoa in center of salad on each plate; top with beef slices. Sprinkle with toasted almonds.

Cook's Tip: To grill rather than broil, pat steak dry with paper towel. Place steak over medium, ash-covered coals. Grill, covered, 7 to 12 minutes for medium rare (145° F) to medium (160° F) doneness, turning occasionally. On preheated gas grill, cook 8 to 12 minutes over medium heat. Adjust heat as needed to prevent burning. 🍴

▼ A variety of fall colors, flavors and textures combine in this hearty make-ahead meal featuring grilled steak and quinoa.

DO-IT-YOURSELF

▼ Chips fly as pecan branches become mulch to use on the orchard floor. Both trees and soil benefit.

IN THE FIELD

Mulch Pecan Orchards with Limb Trimmings

ADDING A LAYER OF WOOD-CHIP MULCH across a pecan orchard floor can improve soil and tree health.

Long-time Texas pecan producer Mark Friesenhahn started mulching his orchard three years ago and credits the practice for increasing soil carbon and other Haney soil test markers, reducing soil temperature and helping keep moisture in the soil even during dry periods. He believes mulching also helped stabilize his nut set from one year to the next.

SOURCING MULCH:

1. Instead of burning the limbs he hedges from his orchard, Friesenhahn began piling up the trimmings and chipping them into mulch.
2. To supplement mulch from his own trimmings, he called to ask for more chips from local right-of-way tree clearing crews hired by utility companies to clear power line rights-of-way. The crews are usually eager to partner with producers who can provide places to discard the wood chips.

FINDING OR BUILDING THE RIGHT TOOLS:

Chippers: Friesenhahn rents a chipper to mulch limbs from his orchard. Most recently he used a 12-inch Crary Bearcat chipper. He stressed how important safety protocols are around chipper equipment and encourages users to review the safety manual before starting the engine.

Spreaders: He distributes the wood chips in an even layer around the orchard using a conventional manure spreader behind a tractor.



APPLICATION AND TIMING:

1. Friesenhahn spreads the wood-chip mulch soon after hedging in January or February to give the mulch time to decompose before harvest. If the wood chips aren't decomposed enough by fall, they may get caught in the pecan harvester.
2. A thin layer across the whole orchard floor is all you need, according to Friesenhahn. "Just enough where you can see a bit of the ground through the chips," he explains. Grass should poke through the mulch layer.
3. In 2025, he spread approximately 16 cubic yards of mulch on each acre of his orchard.
4. He estimates it takes him six to 10 days, spread across a few weeks, to chip and spread the mulch.

Pro Tips: Wood chips sourced from the right-of-way tree crews may have big chunks that don't work well in a spreader, and there may also be plastic bottles and other trash mixed in with the chips. It's important to ask the crews not to include logs and large limb pieces in the wood chips, as they may damage the spreader and would need to be hand-cleared from the orchard. 🌱

BEFORE YOU GO

Q&A with Scotty Herriman, 2024 Oklahoma Leopold Conservation Award Winner

BY ABIGAIL GILMOR

When the rain began that night in June 2007 and didn't stop for days, Scotty and Jo Herriman feared for the future as the Verdigris River flooded their home and washed away the topsoil they had built up for three decades.

Rebuilding their 2,000-acre farm in northeast Oklahoma took time, resilience and a determination to do even more to preserve their soil. Their work not only restored their land but also earned them numerous accolades, most recently, the 2024 Oklahoma Leopold Conservation Award. The award honors land stewards who go above and beyond in their management of soil health, water resources and wildlife habitat on their working land, inspiring others with their dedication to environmental improvement.

After growing up on a small farm, Herriman embarked on his journey as a producer when he purchased his current farm in the 1970s. Here is our discussion with him about how he and Jo approach soil health and how they survived hard times.

Q: Tell me a bit about what farming your land looked like before the 2007 flood.

A: We were growing crops with full tillage and no herbicides. Grass and weeds in the crop were managed using a tractor and a four-row cultivator. The work was slow and methodical, not to mention boring.

At the time, only a few herbicides for weeds and grass were available, but the impacts were sometimes minimal. Wheat herbicides were all but nonexistent.

Q: What were some of your top concerns in those early years?

A: Along with low commodity prices and high interest rates of the 1980s, the growing issue of soil erosion rose to the top of my concerns. The loss of our precious soil had to be dealt with; as the lifeblood of our crops, it had to be saved at all costs.

Terraces with waterway areas helped combat erosion, and this era brought the use of the chisel plow. These practices were a step forward in our conservation progress aimed at slowing down soil loss.

Q: Do you recall a specific success that you attribute to your conservation efforts?

A: Adopting no-tillage practices into our operation greatly improved our soil and water conservation efforts. The very fact that I would not move soil by tillage, causing further erosion, was a no-brainer.

We incorporated cover crops on our farms in 2016 to enhance our conservation efforts. These cover crops proved to be very beneficial for our soil in many ways. Better water intake, cleaner water leaving our land in excess rain events, as well as reduced herbicide usage were a few of the tangible results we gained.

Q: Your farm experienced a devastating flood in 2007. How did that event impact your management philosophy for the land?

A: We had gone through a couple of 100-year flood events: in 1976 and 1986. The 2007 flood was 5 feet higher than any previous flood on our land and lasted many days. The timing of the storm was critical, because it was right around the first of July. Our wheat had not been harvested, our corn looked good and tasseled, but it was all destroyed. And the timing kept us from planting soybeans. We harvested 13 out of 2,000 acres that year.

We knew there had to be big changes in our operation to continue farming. That's when we changed to 100% no-till and have not regretted it.

Q: What advice would you share with farmers and ranchers who may face a similar disaster?

A: Having gone through flood devastation, I've been able to encourage a few others while going through a loss on

their farm. My most important advice to them is to place their faith in God and He will carry you through. I realize this advice is easy to give and hard to take, but He carried us through our darkest days. He empowered others to help us get back on track.

Also, remain in a positive relationship with your banker and tax person. Your integrity toward your farm career has a resolute influence in times of trial.

Q: What advice would you share with farmers and ranchers looking to make changes on their land?

A: I recommend using the Natural Resources Conservation Service as well as working with your local Farm Service Agency office to adopt cost-sharing programs. NRCS assistance is available in every state and county in the U.S. These offices are the channel producers can go through to get funding for projects that apply conservation principles to the land.

Q: With the benefit of your many years of experience, what do you see as a future need of farming?

A: I believe with all my heart that the future for farmers and ranchers is very bright. The number of people who depend on us for food and fiber increases every year while our numbers in ag production are in sharp decline. Today our machines are bigger and better; our planting equipment is more efficient; and we enjoy advanced seed technology. Weather is still — as always — the wild card in our success.

To continue doing what we love to do in agriculture, we need to protect our soils with some sort of conservation tillage and/or no-till with cover crops. We must act now. As Jimmy Emmons says, "Long live the soil." 🌱



Scotty and Jo Herriman; photo courtesy of Dustin Mielke of Oklahoma Farm Bureau



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GRAZING AND GRENADES

Cattle play a major role in reducing wildfire risk in high-burn areas like grenade ranges and training areas at Camp San Luis Obispo, California, as part of a unique initiative called the Regenerative Grazing Open Air Lab (R-GOAL). Read more about the program and its benefits in our story on page 32.

