A REGENERATIVE RANCHING PUBLICATION FROM NOBLE RESEARCH INSTITUTE

LEGACY

WINTER 2021 | VOL. 15, ISSUE 2

THE Power OF A Regenerative Mindset

REGENERATIVE RANCHERS share insight into what kind of mindset fuels their desire to improve the land.

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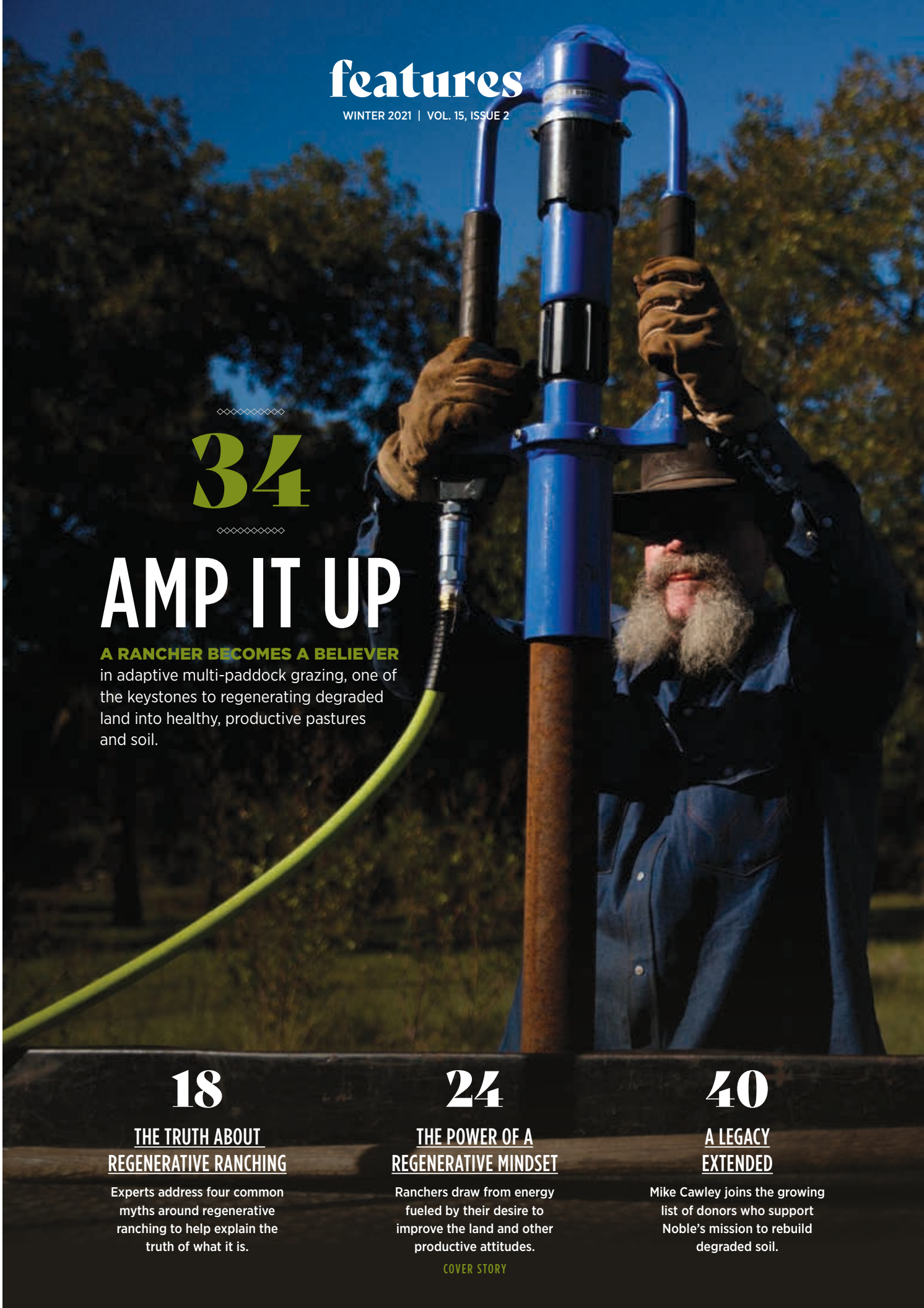
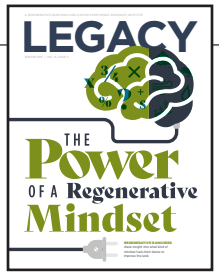
features

WINTER 2021 | VOL. 15, ISSUE 2



Oklahoma rancher Kent Donica uses a hydraulic fencepost driver as he builds fencing for his adaptive multi-paddock (AMP) grazing.

departments



ON THE COVER

Ranch families in California, Kansas and Nebraska share what has (and hasn't) worked for them in their varied quests to leave the land better than they found it. A common current courses through their stories: THE POWER OF A REGENERATIVE MINDSET.

LEGACY

WINTER 2021 | VOL. 15, ISSUE 2

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Reprint requests may be made by contacting J. Adam Calaway, director of communications and public relations, at 580-224-6209 or by email at jacalaway@noble.org.

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NOBLE RESEARCH INSTITUTE

SHARED VALUES, NOT SHARED LABELS

Words are funny things.

Take "mouse" for instance. This simple, concrete noun can mean a furry mammal that scurries across the floor or a handheld device that controls your computer. Same word. Same oddly fearful reaction from your mother. Completely different meanings.

Take more abstract terms like "value," or "love," and the definition depends largely on an individual's context. Herein lies the problem. Words are funny because they mean different things to different people at different times.

In 2021, Noble announced its intent to focus its research, education and consultation activities, as well as its 13,500 acres of research ranches, entirely on regenerative agriculture. More specifically, Noble homed in on regenerative ranching, which seeks to apply ecological principles to rebuild degraded soil and *improve* — not just sustain — the 654 million pasture and rangeland acres in the United States.

We knew that news of a 75-year-old organization making such a shift would require some explanation. People would need information and time to understand. Turns out, there's also a word issue.

"Regenerative agriculture" lies anywhere on the spectrum from enthusiastic and hopeful to confusing or downright inflammatory, depending on an individual's perspective.

Some people think that it means Noble is now conducting and advocating for organic agriculture. It doesn't, and organic and regenerative are not the same thing. Other people think it's just a trendy new catch phrase contrived in a marketing meeting. Let's dispel that notion now. The phrase "regenerative agriculture" originated about 40 years ago, and the broad concept of working with the Earth's natural cycles, well, that's as old as agriculture itself.

Regenerative agriculture's popularity is spreading.

New regenerative programs spring up daily, bringing more advocates to production agriculture, but also ushering in slightly different definitions and approaches. The amount of discussion increases the opportunity for people to learn about regenerative. It also increases opportunity for confusion. And politicians on both sides of the aisle have uttered the phrase in recent years (heaven forbid!), instantly polarizing the term. We go from mere words to politicized labels in a flash.

Mention anything that seems too big, too confusing or too controversial, and people shy away. Words are funny things, but they are also powerful.

Here's Noble's simple response to the hullabaloo around the words "regenerative agriculture." We use the words to help bring focus to our organizational goal, and it's a simple answer when people ask what we do. But we don't have any special right to the term. And we won't get caught up in agendas or definitions or who said what about regenerative.

We care about the health of this nation's grazing lands. We care about the people who steward the land — their physical, mental and fiscal health. We care about the society that depends on the land.

Noble aligns with this nation's farmers and ranchers, and other organizations — not because of a label — but through shared values that include these fundamental tenets:

- We believe that farmers and ranchers must build successful enterprises framed by profitability so that they can make sound, long-term decisions for their land, their animals and their families and pass that land on to successive generations.
- We believe that most farmers and ranchers share a common ethos that each generation has an obligation to leave the land better than they found it.
- We believe that every family, ranch or farm has its own unique characteristics, opportunities and challenges and must be managed accordingly.
- And, we believe that rebuilding soil health is the foundational force that propels the ecosystem, and is an investment in the health of the land, rancher and society.

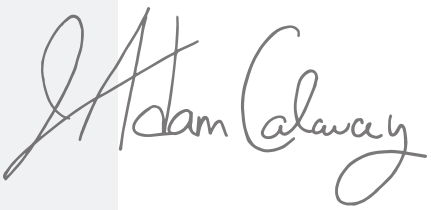
WE CARE ABOUT THE HEALTH OF THIS NATION'S GRAZING LANDS. WE CARE ABOUT THE PEOPLE WHO STEWARD THE LAND. WE CARE ABOUT THE SOCIETY THAT DEPENDS ON THE LAND.

If you share these values, then we are travelers on the same journey. When you read the cover story in this issue of *Legacy*, and you see the headline "Regenerative Mindset," know that we use the words for clarity, not as a litmus test or a catalyst for controversy.

Everyone is welcome on this soil health journey — no matter what you call it. The terminology is irrelevant. Our purpose and the outcomes are all that matter.

So let us walk together and learn from each other, so that we may be strengthened by the camaraderie and accomplish more together.

Blessings on your journey,



J. ADAM CALAWAY, EDITOR

CLARK ROBERTS never expected to be a shepherd, but as Noble continues to integrate regenerative changes, he's learning to manage a whole new type of grazing animal.

NOBLE RANCHES | COFFEY RANCH

GOING WHERE NO SHEEP HAS GONE BEFORE

BY WILL CHAMBLEE

39

sheep were introduced to Coffey Ranch in spring 2021

Wilson is one of four guard dogs who help Roberts manage the new flock of sheep grazing the paddocks on Coffey Ranch.

Clark Roberts usually traverses the landscape of Coffey Ranch at a breakneck speed, but today he's taking it slow.

Roberts, the ranch facility manager for Noble Research Institute's Coffey Ranch, rolls down a dusty path leading to the flock of sheep in his side-by-side all-terrain vehicle. He periodically glances over his shoulder to make sure that Lucy and Ethel, the new 5-month-old guard dogs in training, are still following him.

Noble introduced 39 sheep to Coffey Ranch in spring 2021, and Roberts has been their den mother. Now, the size of the flock has doubled, and Roberts is bringing in the pair of young pups as reinforcements for the two experienced guard dogs, Wilson and Amos.

As Roberts, Lucy and Ethel arrive at their new flock, it's easy to see the sheep's effect on the land. Sheep are selective grazers that will find and eat many different species of grass and forbs. At Coffey, the flock has cleared out an area in the shade to lay and rest. A wall of taller grass surrounds and partially obscures them from view.

Lucy and Ethel immediately careen toward the flock with an exuberant energy only possessed by puppies. The sheep peer over the tall grass from their clearing with a healthy look of skepticism. (Sheep are not innately trusting creatures, Roberts explains.) The flock took three weeks to get used to Roberts, and even longer to become accustomed to his ATV. The new puppies are unwelcome additions.

Lucy reaches the flock first and is promptly met with a sudden "smack" to her snout from the head butt of one of the sheep. She emits a yelp before bounding back in the direction she came, tail tucked between her legs and Ethel not far behind her. Wilson and Amos look on quietly, before calmly sauntering back to their place among the herd.

Integrating two puppies into a flock of sheep is just the latest in a long list of firsts that Roberts has accomplished in the past six months. Noble decided to introduce sheep into Coffey Ranch as part of its overall pivot toward regenerative ranching, the goal of which is to restore degraded grazing lands by applying the six principles of soil health (see page 29). With the change in focus, Noble is revolutionizing the way it manages its ranches, from the type of livestock used to every decision being centered on rebuilding the soil.

Of course, there have been a lot of lessons to learn, for both dogs and humans.

The sheep at Coffey Ranch are rotationally grazed using **ADAPTIVE MULTI-PADDOCK (AMP) GRAZING**. To read more about AMP grazing, turn to page **34**.

FOR THE GOOD OF THE RANCH

Noble's shift to regenerative ranching has challenged everyone. Roberts had little prior experience practicing regenerative ranching before the transition, and even less with herding sheep. But stepping out of one's comfort zone is often necessary for the good of a ranch, and sheep — like other grazing animals — can play a critical role in building soil health.

The new flock helps Coffey Ranch follow the soil health principles, especially increasing diversity and, of course, integrating livestock. Sheep utilize a larger amount of forbs than cattle, allowing for greater use of all available forages on the ranch. The sheep also contribute by adding additional manure, which decomposes into a natural fertilizer, further boosting the health of the soil. But most importantly, sheep increase the biodiversity of the land, a vital principle of soil health.

"Diversity is key in all areas of the ranch," Roberts says.

The hair sheep chosen to graze Coffey Ranch are self-sufficient, cost-effective and gladly will eat weeds and forbs that cattle pass up.

"We want diversity in the soil, diversity in our forages, diversity in our wildlife and our livestock."

While cattle have traditionally been Coffey's primary livestock, the newly added sheep have complemented the cattle's grazing patterns. Sheep will eat plants in the forage mix that cattle pass up. The diversity in livestock has helped Coffey capitalize on all of its natural forage, leading to further diversity in other areas of the ranch.

All of these benefits exemplify what regenerative ranching is all about: putting nature to work for your ranch, not against it.

A CHRISTMAS STORY

Coffey's journey with regenerative ranching hasn't been easy. Roberts encountered and overcame numerous challenges early on. He quickly learned the principles of regenerative ranching (it's a mindset, not a recipe) and studied the sheep's movement and foraging patterns so he could best utilize them. A few months later, Roberts says he realizes the learning has just begun.

"I'm still learning, figuring out the flock's foraging behavior and little idiosyncrasies," Roberts says. "It's a huge learning curve that I'm still trying to figure out."

Another challenge that Roberts immediately encountered was keeping the flock fenced into their paddock. Roberts used a single strand of electrified poly wire, but the sheep could pass underneath the wire without feeling any warning shock due to their hair's insulation and their nimbleness.

Keeping the flock in place was important not just for the adaptive multi-paddock grazing strategies used on the ranch, but also for the animals' safety. When left to their own devices, sheep can tend to make life-ending decisions.

To stop the sheep's jailbreaks, Roberts had to ensure that the wire would hit the sheep's nose. It was the only way they would feel the zap. Once Roberts had the wire set up correctly, the flock quickly came to the sudden realization that the fencing was not to be trifled with.

"There were five of them (lambs) standing there in front of the poly wire when they first went out," Roberts says. "It was like that Christmas story where the kids say, 'You won't touch your tongue to the pole. You won't do it.' One of those suckers went up there and hit his nose to it and jumped back. The other ones were standing there going, 'What happened?!' before they turned around and took off."

Safe to say, Roberts' fencing problem was solved.

COUNT 'EM: MORE SHEEP ON THE WAY

While Roberts wrangled with some initial challenges, adding the sheep has been crucial in converting Coffey Ranch to regenerative ranching. His short time with his flock has helped him expand his husbandry abilities. He has become more observant and more attuned to their habits and needs. In turn, the flock has become easier to manage and more self-sufficient.

> "DIVERSITY IS KEY IN ALL AREAS OF THE RANCH. WE WANT DIVERSITY IN THE SOIL, DIVERSITY IN OUR FORAGES, DIVERSITY IN OUR WILDLIFE AND OUR LIVESTOCK."
>
> —CLARK ROBERTS

Noble specifically chose hair sheep over wool sheep due to their self-sufficiency. Katahdin and Dorper ewes, the type of hair sheep Noble run, are more parasite-resistant and hardier than wool sheep, capable of living comfortably in varying climates. Additionally, while wool sheep must be sheared at least once a year, hair sheep do not require any shearing.

Hair sheep are more cost-efficient when compared to wool sheep. Wool sheep require dewormer four to five times a year, while hair sheep require none. Hair sheep can also live off the land. They eat plants the cows usually won't eat, saving the ranch money.

"Hair sheep require little or no feed if you have enough forage, and Noble is focused on grazing animals, so it all makes sense," says Kevin Lynch, a Noble research associate who has worked with sheep on his own ranch for the better part of 35 years. "Wool sheep need to be fed grain and hay throughout the year. Hair

Goats can eat and clear brush up to

7–8' tall

sheep will graze on weeds or grass. You don't have to intensely manage them."

Roberts' most critical takeaway in his novice shepherding career: the flock's potential for sustained profitability. Sheep are capable of lambing twins or triplets, and it doesn't take long for lambs to be ready for market after birth, meaning they can quickly become profitable.

"In four months, you can take them to market and ship the lamb," Lynch says. "Usually, with any of the hair sheep, at 50 pounds you are ready to go to market."

Moreover, because hair sheep feed on weeds (i.e., plants you don't want) and forbs, the reduced need for chemical inputs can have an additional soil benefit and reduce costs for producers. If properly managed, hair sheep can bring regenerative and monetary benefits to a ranch in quick order.

Noble aims to eventually grow its Coffey flock of hair sheep before potentially introducing flocks to its other ranches.

NO KIDDING: GOATS ARE NEXT

The next step to increase diversity — in both graziers and enterprises — at Coffey Ranch will include adding goats. Goats share many attributes with sheep: hardy, parasite-resistant and profitable. They are low-maintenance, browsing animals that promote soil health and diversity. A key advantage goats possess is their skill at natural brush control. Lynch specifically named Spanish or Kiko goats as the best breeds for this task.

"Goats will eat brush. Sheep will eat some brush, but nothing like goats," Lynch says. "Goats will clear brush up to 7 or 8 feet tall."

Goats, which coexist well with sheep, also require similar management, grazing plans and fencing. When run together with sheep, goats can be a smart and easy investment to increase a ranch's diversity and soil health.

Coffey Ranch, along with the other Noble ranches, will serve as an example of the capabilities of regenerative ranching. Through his limited experience with one flock, Roberts has already noticed positive changes in the ranch's plants and soil. "If you turn a spade of soil over and look at it, you can already see it improving," he says. "It's only been one season, but I am beginning to see the difference already."

It may just be one flock of sheep so far, but this new endeavor represents another step along the path of regenerative ranching, a path that will change the health of the soil, the plants and the entire outlook of the ranch. Change may not be easy. There are always new lessons and challenges.

Just ask Roberts. Or Lucy and the lambs.

Sheep often have twins or triplets, and the lambs can be ready for market as soon as four months after they're born.

KEEP UP WITH CLARK, LUCY AND THE LAMBS

We invite you to follow our journey of regenerating the land. See more behind-the-scenes content from Coffey Ranch on our **Instagram** page.

@nobleresearchinstitute

NOBLE RANCHES | OSWALT RANCH

A MOVING MORNING

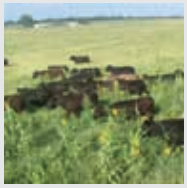
JEREMY WESTFALL is up with the sunrise on a cool autumn morning at Noble Research Institute's Oswalt Ranch near Marietta, Oklahoma. Westfall counts cattle as he moves them to a fresh paddock for grazing.

from our ranches

NOBLE RANCHES | RED RIVER RANCH

THE SILVOPASTURE APPROACH TO REGENERATIVE AGRICULTURE

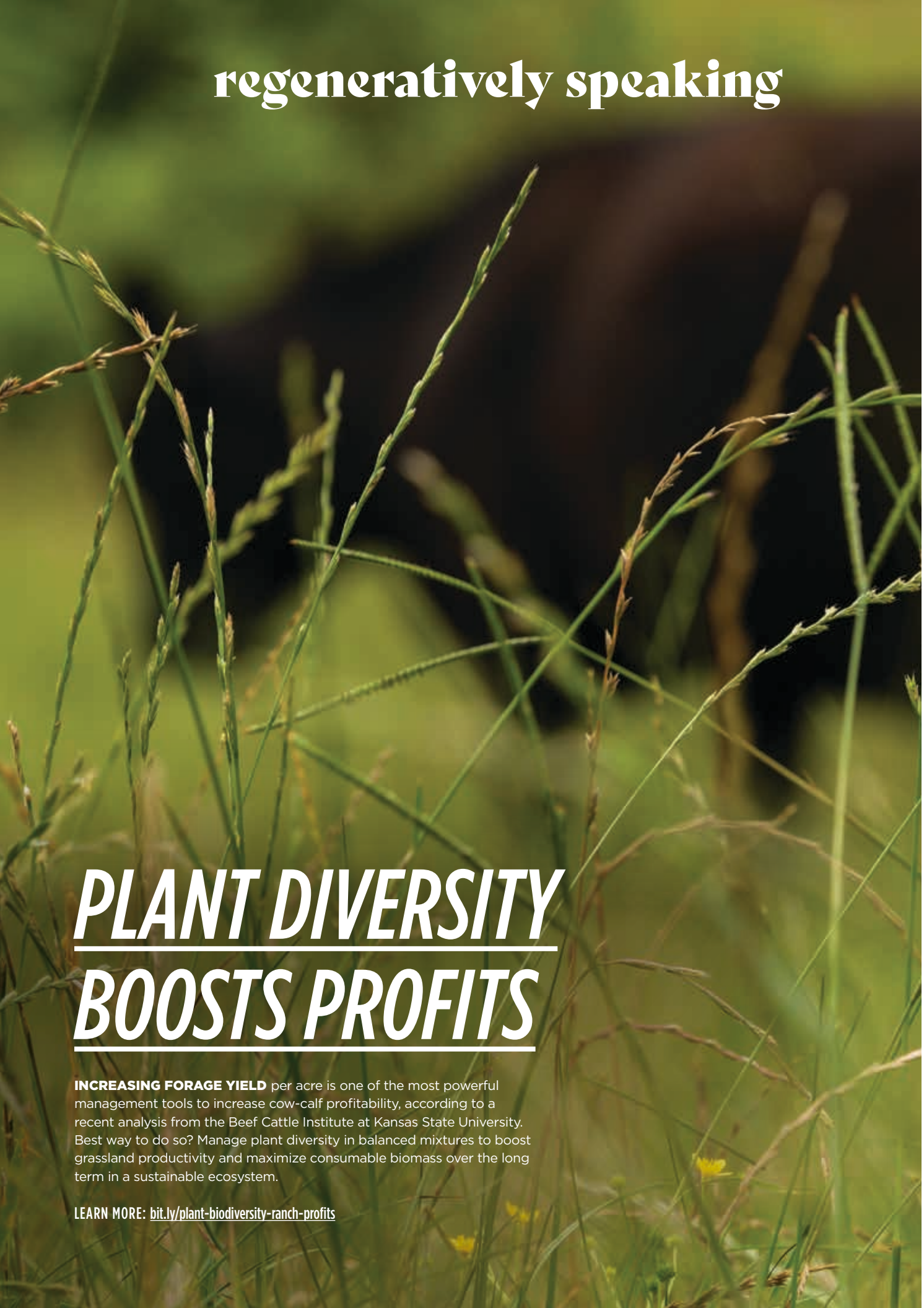
INTEGRATING TREES, FORAGES AND LIVESTOCK in a silvopasture system can boost income and soil health while reducing the need for outside inputs. Here, cattle graze in the pecan grove at the Red River Ranch of Noble Research Institute. Such regenerative practices foster a diversity of species, including grasshoppers that return nutrients to the earth and serve as food for other creatures in a vibrant ecosystem.



OUR CATTLE ARE ON THE MOVE

Watch a herd of 287 head averaging 700 pounds move from a 4-acre paddock after high stock density grazing for one day.

Check out the video on **Facebook** by visiting **bit.ly/movingcattle**



PLANT DIVERSITY BOOSTS PROFITS

INCREASING FORAGE YIELD per acre is one of the most powerful management tools to increase cow-calf profitability, according to a recent analysis from the Beef Cattle Institute at Kansas State University. Best way to do so? Manage plant diversity in balanced mixtures to boost grassland productivity and maximize consumable biomass over the long term in a sustainable ecosystem.

LEARN MORE: bit.ly/plant-biodiversity-ranch-profits

7

Things You Should Do To Get Started With Regenerative Grazing

A regenerative grazing management plan should include:

1

GOALS FOR YOUR OPERATION

Define the practices that are needed to meet the outcomes.

2

MAPS AND AERIAL PHOTOS

Use aerial photos and soil maps to view the property as a whole.

3

EXISTING INFRASTRUCTURE

Identify areas that need infrastructure development to improve the utilization of the entire property.

4

EXISTING FORAGES

Know the forage production and existing forage types to help determine an appropriate stocking rate.

5

GRAZEABLE ACRES

Determine the grazeable acres where the selected grazing animal could forage.

6

STOCKING RATE

Calculate proper stocking rate. It is the most important management decision you can make.

7

ADDITIONAL EQUIPMENT

Add temporary fencing, like polywire, for the rotation of livestock across your acreage.

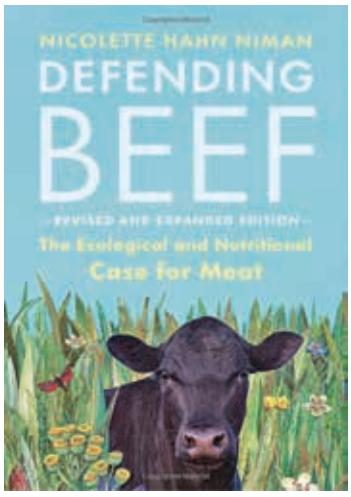
VIEW THE FULL ARTICLE:
bit.ly/7-ways-get-started

THE POWER OF DIVERSITY

BEYOND CHEESE

THE HEMME BROTHERS FARMSTEAD CREAMERY in Missouri has built its brand on high-quality cheeses. The foundation of the Hemme family's success is the soil. The family implemented regenerative agriculture principles to help rebuild their soil health and create opportunities for new enterprises. Now, the farm and creamery support five families.

WATCH THEIR STORY HERE: youtu.be/MCrU3tu-SLM



DEFENDING BEEF

IN 2021'S "DEFENDING BEEF, THE ECOLOGICAL AND NUTRITIONAL CASE FOR MEAT, 2ND EDITION," environmental lawyer turned rancher Nicolette Hahn Niman argues that cattle are not inherently bad for the earth. With proper management, she says, livestock can play an essential role in maintaining grassland ecosystems.

READ ABOUT NIMAN'S JOURNEY: bit.ly/defending-beef

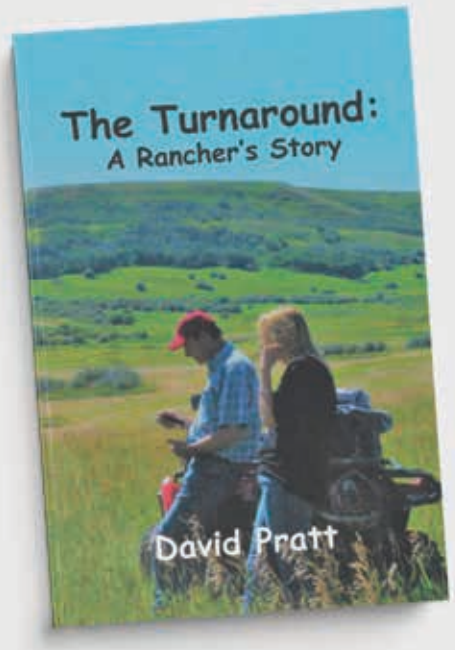
BOOK AVAILABLE HERE: amzn.to/3ITUPw8

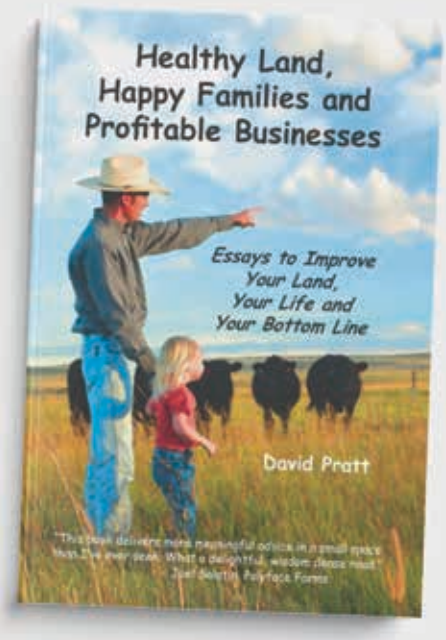
WORTH THE READ

GUIDES TO RANCHING REGENERATIVELY

DAVE PRATT, long-time owner and instructor at the Ranching for Profit School, shares principles of sustainable and profitable ranching through the story of a fictional ranch in his second book, "The Turnaround: A Rancher's Story." The true-to-life narrative helps readers rethink the traditional ways of running a ranch, with an emphasis on soil health, much like his first book, "Healthy Land, Happy Families and Profitable Businesses."

BOTH BOOKS CAN BE FOUND HERE: ranchmanagement.com/shop/





CATTLE ON THE MOVE, CARBON IN THE SOIL

On their eastern Montana ranch, the Obrechts stand at the forefront of an emerging collaboration of ranchers, conservation groups and governmental agencies that aims to protect, restore and revitalize U.S. and Canadian prairies. Per The New York Times article, "the family's secret weapon to sequester even more carbon from the atmosphere while also promoting soil health and biodiversity? Cows."

READ MORE HERE: nyti.ms/3yvw3xv

5 Considerations for Increasing Wildlife Diversity

Ranchers who want a large variety of wildlife species need to know where to focus their efforts to obtain the best results.

1

HABITAT DIVERSITY

Diverse habitats support a greater variety of wildlife species than less diverse habitats.

2

ECOSYSTEM PROCESSES

Good wildlife habitat has healthy functioning ecosystem processes.

3

SOIL HEALTH

Soil is the foundation of a healthy ecosystem. Healthy soils typically support more plant and animal organisms.

4

ECOLOGICAL STEWARDSHIP

An understanding of ecological relationships between herbivory, fire, rest, plants, ecosystem processes and soils is necessary to effectively steward natural resources.

5

SIZE

Size is important to have more biodiversity. In general, more area supports more wildlife species.

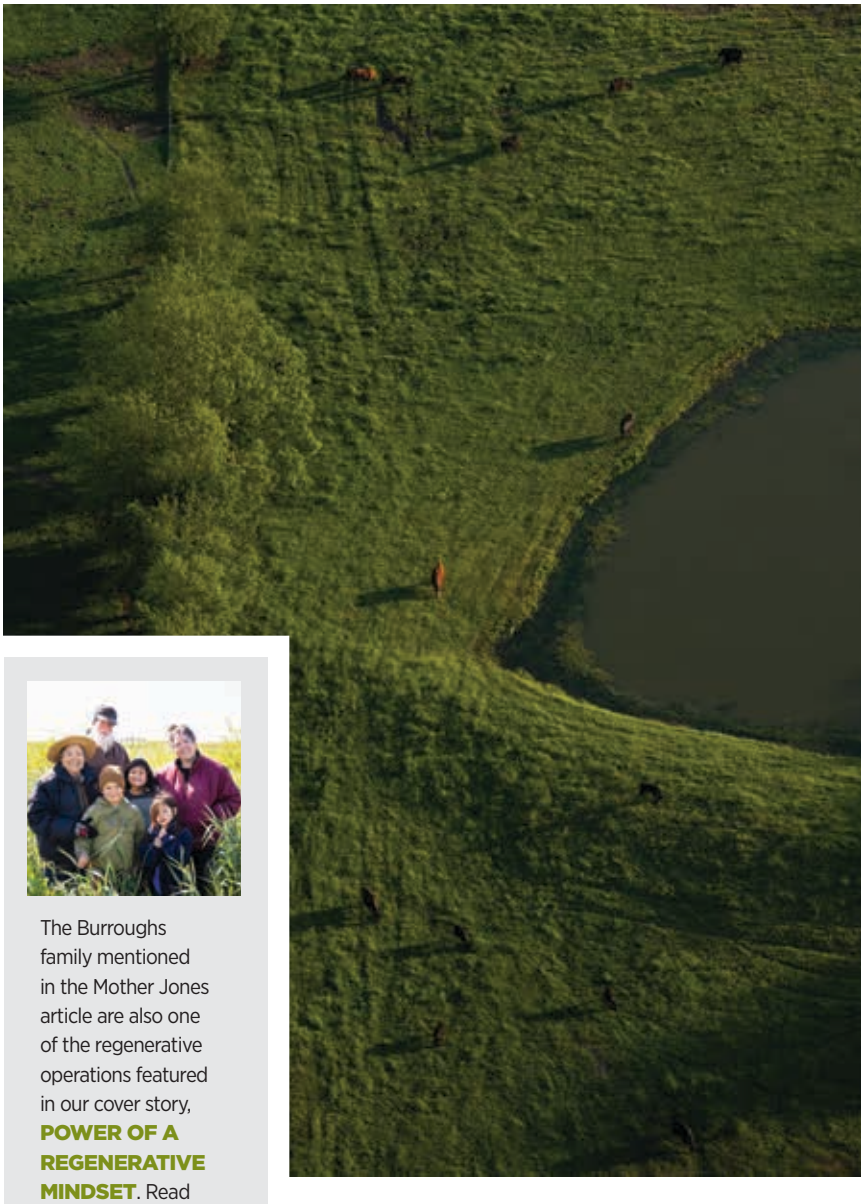
VIEW THE FULL ARTICLE:
bit.ly/top-5-increase

HEALTHY CHANGES

SEEDING A REGENERATIVE FUTURE

AMERICAN FARMLAND TRUST took the regenerative agriculture message to readers of Mother Jones in "Farmers Are Seeding a Regenerative Future," letting consumers know how farmers are using regenerative practices to create healthier soil, improve groundwater quality, weather climate change and even increase profits.

READ MORE HERE: bit.ly/Seeding-regen



The Burroughs family mentioned in the Mother Jones article are also one of the regenerative operations featured in our cover story, **POWER OF A REGENERATIVE MINDSET**. Read about them on page **24**.

W.O.R.M.S.

When it comes to soil health, worms are always welcome! But have you heard of the latest W.O.R.M.S. program from the Oklahoma Conservation Commission? The "Working On Regenerative Management Systems" program is a new initiative to help farmers and ranchers track the progress of the soil health work they undertake on their land.

THE SOUTHERN PLAINS PERSPECTIVE EXPLAINS THE PROGRAM: bit.ly/OCC-WORMS

KOCO INTERVIEW WITH JIMMY EMMONS

KOCO News 5, an Oklahoma City station, shares how Oklahoma producers are exploring a new approach to farming and ranching — regenerative ranching. Jimmy Emmons is a true believer in regenerative ranching. Since changing his approach, he grows better crops, uses less water, grazes more cattle and, most importantly, makes more money.

WATCH THE VIDEO: bit.ly/koco-regen

regeneratively speaking

2

Podcast Episodes To Listen To

RANCHING REBOOT

Episode 14, Hoy Family
"Regenerative Ranching from Horseback"

Ranching Reboot podcast visits with the Hoy family, winners of the 2020 Kansas Aldo Leopold Conservation Award, about their ranch and regenerative management.

LISTEN HERE:
bit.ly/podcast-hoy

THE CASUAL CATTLE CONVERSATIONS

Regenerative Ranching: Why is this the future and how to get started

The Casual Cattle Conversations podcast visits with Steve Rhines and Hugh Aljoe, who share Noble's focus on regenerative ranching and how cattle producers implement these practices.

LISTEN HERE:
bit.ly/cattleconvo-noble

The benefits of regenerating soil run deep, as shown in the dark earth rich with organic matter in this pasture.

SUSTAINABLE PEDIGREE

LINEAGES OF REGENERATIVE AGRICULTURE

WHAT DOES 'REGENERATIVE AGRICULTURE' MEAN? The Regen Network goes into detail about the different interpretations of the term and the different ways it is used. Most importantly, they believe every farm has room to grow toward deeper ecological health in their farming practices.

READ THE FULL ARTICLE: bit.ly/lineagesRA

WHERE CAN REGENERATIVE AGRICULTURE WORK?

Anywhere you have land, water and sunshine, say regenerative ranchers Ryan and Nicole Murphy of Freedom Foods Farm in Winnsboro, Texas. In one of his many instructional and entertaining videos, Ryan shows how both his grass and his longhorns are thriving with high-intensity grazing.

WATCH THE VIDEO: youtu.be/xv0KNqgFiE0

SOCIAL MEDIA ACCOUNTS TO FOLLOW

FROM OUR FEEDS

In our social media feeds we have found a treasure trove of regenerative ranching inspiration from peers within our network.

REVERENT WILD RANCH, TIKTOK

"Come on cowsssss!" Reverent Wild Ranch is a regenerative ranch in Chickamauga, Georgia. Michael Kinsey's memorable cow call has grown the ranch's TikTok account to 13 million likes and counting. His account shares the ranch's regenerative journey, tips on regenerative grazing with cattle, lessons learned, how-to's and more.

tiktok.com/@reverentwildranch

SAVORY INSTITUTE, FACEBOOK

Savory Institute focuses on holistic management to facilitate the regeneration of grasslands. It shares decision-making and planning procedures to give ranchers the insight and management tools needed for ecological restoration of grasslands worldwide. Its Facebook page shares an array of content, from educational to testimonials from farmers and ranchers just like you. Savory's posts are easy to digest and relate to.

facebook.com/savory.global

HOLISTIC MANAGEMENT INTERNATIONAL, YOUTUBE

Holistic Management International works with family farmers, ranchers, tribal members, and pastoralists to support their adoption and evolution of regenerative agricultural practices. HMI's YouTube channel brims with farm case studies, 2021 Regen Ranch Field Days videos and the mega-popular "Great Pyrenees Guardian Dog with Alpine Goats."

youtube.com/user/HolisticManagement

WHITE OAK PASTURES | BLUFFTON, GA

INSTAGRAM @WHITEOAKPASTURES

White Oak Pastures is a sixth-generation farm in Bluffton, Georgia. The Harris family's Instagram account is a beautiful blend of content. From educational efforts to selling their own meat, sharing how they steward their land and care for their livestock.

"My father started transitioning the farm to regenerative in the '90s to allow animals to live a life expressing their instincts," says Jenni Harris, director of marketing. "He started doing things differently. Focusing on the land, animals and impact it has on the town of Bluffton."

> "MY FATHER STARTED TRANSITIONING THE FARM TO REGENERATIVE IN THE '90S TO ALLOW ANIMALS TO LIVE A LIFE EXPRESSING THEIR INSTINCTS."
>
> —JENNI HARRIS

White Oak Pastures boasts 10 species of pasture-raised animals and has an on-farm processing facility, offering the community meat products and by-products including pet chews and leather goods.

Harris says social media is not their lead marketing method, but they post to Facebook and Instagram to reach different types of audiences.

"It's a chance for them to connect and learn about the farm on their own time," says Harris.

THE TRUTH ABOUT Regenerative Ranching

SOMETIMES the best way to explain a concept is to say what it is not. Experts from Noble Research Institute and Texas A&M address four common myths around regenerative ranching to help explain the truth of what it *is.*

BY MARILYN CUMMINS

You may be hearing things about regenerative ranching. That it's the same as organic farming. That you would have to build all new fences and move your cows every day. That soil health is more important than livestock productivity.

It's natural that new and unfamiliar concepts can lead to misconceptions and myths, such as those listed above. To help correct these misnomers, two experts give us the straight talk on regenerative ranching.

Caitlin Hebbert is a livestock consultant with Noble Research Institute. Jeff Goodwin is the program director for Texas A&M's Natural Resources Institute. They agree that a primary barrier to beginning the regenerative ranching journey can include unknown answers to fundamental questions.

Let's start with one simple truth: Regenerative ranching is the process of restoring degraded soils using practices based on ecological principles. "In short, it's important to understand that regenerative ranching is not a program, a certification, an end-point or a set of rules," Goodwin says. "That's where some of the myths originate."

The No. 1 thing regenerative ranching is, he says, is a mindset — a way of looking at things, even when looking at something seemingly as simple as cows grazing in a field. "Yes, we see cows on grass, but we're also looking at multiple, dynamic ecosystem processes, all competing for balance. And we want these processes — the water, energy and nutrient cycles as well as community dynamics — to be healthy and in balance on our land."

The regenerative ranching mindset looks holistically at the intersection of soil, plants, water, animals and the producer themself. As Hebbert says, "So many good things can happen when we work in concert with nature and help cattle be in sync with their environment."

Here are the four most common myths about regenerative ranching. Hebbert and Goodwin address each in the hopes of helping producers start their own regenerative journey.

One of the goals of regenerative ranching is to help cattle and other grazing animals be in sync with their environment and regain their natural foraging skills.

Using the soil health principles will create a healthy ecosystem of plants and soil organisms that can produce their own fertility over time, reducing dependence on synthetic fertilizers.

MYTH:

Regenerative ranching is the same as "organic," "never-ever" or "all-natural" programs.

TRUTH: The aforementioned livestock production methods *are* based on prescriptive standards that lead to certification of the meat that's produced and marketed to consumers:

- organic (the animal's diet is certified organic and no antibiotics or growth hormones can be used);
- never-ever (varying lists of things "never ever" done – from administering antibiotics, adding hormones or artificial ingredients, to feeding anything but a grass-fed and vegetarian diet); or
- all-natural (which doesn't refer to farm or ranch practices, but to not adding anything to the meat during processing).

This is not the case with regenerative ranching. "Regenerative ranching is not a certification or a program. It's an adaptive framework of principles to help producers be able to build and repair broken ecosystems," Goodwin says. "There is no checklist. There is no recipe. It's adaptive management to local conditions."

From an ecological perspective, adaptive management may mean a gradual transition away from an annual dependence on synthetic fertilizer rather than going cold turkey, he says. Using the soil health principles will create a healthy ecosystem of plants and soil organisms that can produce their own fertility, but it takes time.

> "REGENERATIVE RANCHING IS NOT A CERTIFICATION OR A PROGRAM. IT'S AN ADAPTIVE FRAMEWORK OF PRINCIPLES TO HELP PRODUCERS BE ABLE TO BUILD AND REPAIR BROKEN ECOSYSTEMS."
>
> —JEFF GOODWIN

Likewise, even regenerative ranchers with a goal of not using chemical brush control may find it necessary when they buy a property covered in mesquite. "Soil health is not going to magically get rid of the mesquite problem," Goodwin says. "Context matters."

In other words, there's room in regenerative ranching to use these tools, judiciously and with intention, to mend broken ecosystem processes based on a producer's specific context. Their use in transition can help reach the goal of not being forever dependent on them to reach some level of productivity.

The same applies to being good stewards of our animals as well as our land. Regenerative ranching neither prescribes nor prohibits the use of any tool producers believe is necessary for their operation. "For example, one ranch's animal health protocol may include vaccination programs and antibiotics to treat illness or injury, while still ranching regeneratively," Hebbert says. "Another producer may choose to be both regenerative and organic and not use these tools."

MYTH:

Regenerative ranching requires cattle to be moved every day or multiple times a day.

TRUTH: It's not required, although some ranchers chose to do so.

Regenerative grazing, especially adaptive multi-paddock (AMP) grazing, attempts to mimic nature and the way livestock would naturally interact with ecological systems, "the way the relationship was designed to be," says Hebbert. "Think of bison on the Great Plains. They would roam, mob an area, then move on and not come back to that area for another five years, until the native prairie grasses recovered."

Today, the primary objective of how grazing is managed in regenerative ranching is to do what the bison did — allow grass to fully recover before grazing it again. That means planning livestock movements to achieve the ecological outcomes you want on your ranch, not following a rigid grazing prescription.

Goodwin outlines the four tools ranchers need to balance and manage when it comes to grazing events aimed at pasture recovery: timing, intensity, frequency and duration. "Managing with those four key tools gives the rancher more control over the time that allows that plant or that pasture to recover," he says.

This principle is in contrast to setting a rigid, prescriptive stocking rate and a calendar of scheduled moves that are made without regard to the pasture condition or how the cattle are behaving or performing.

"Once you are in a regenerative system, the cattle will tell you when they're content and when they're no longer content, if you just pay attention," Hebbert explains. She also understands why producers just starting out with regenerative ranching may worry about their cattle's ability and willingness to move so often. There is a learning curve for both humans and livestock.

"We've managed a lot of the foraging ability out of domestic cattle with monoculture pastures," she says, "so regenerative ranching includes 'biomimicry' — imitating what cattle are naturally designed to do, and managing to help them do it."

Experienced regenerative practitioners report their cattle soon become used to seeing them among the herd and gladly move to fresh forage. They become more docile, which makes it easier and saves labor when it's time to work them, Hebbert says. "The cattle also regain their natural foraging skills and better utilize pastures by grazing more than just the grass."

Clark Roberts, ranch facility manager, moves a herd as part of regenerative grazing efforts at Noble Research Institute's Coffey Ranch.

ABOUT THE EXPERTS

Caitlin Hebbert serves as a livestock consultant at Noble Research Institute. Her areas of interest include preconditioning management, grazing cattle nutrition and replacement heifer development. Hebbert was raised on large cow-calf operations in far West Texas and southeastern New Mexico.

Jeff Goodwin serves is a program director at Texas A&M's Natural Resources Institute. He's been a rangeland management specialist for more than 20 years, with his most recent research focusing on how grazing management decisions impact the soil health of pasture and rangelands.

MYTH:

Regenerative ranching causes you to sacrifice livestock performance for the land.

TRUTH: This myth comes partly from equating the practice of high-intensity or "mob" grazing with regenerative ranching. Producers may believe their cattle will lose condition if they have to move them daily, or multiple times a day, pushing them to be selective as they graze and shorting them on forage.

It's possible that livestock performance could suffer if high-intensity grazing is used as a rotational grazing "practice" without looking holistically at the whole picture and focusing on the ecological principles, Hebbert explains. "The point of regenerative is to reach a place where you don't have to supplement as much, because you've put your animals in sync with their environment."

Part of connecting cattle with nature is expanding their grazing palate beyond foods that are safe and familiar, just like with humans. Hebbert recalls a herd that had been aquired and put on one of Noble's ranches. The herd had come off a wheat pasture and being fed a mixed ration every day. "We turned them out to graze in a multi-culture pasture, and they didn't know how! They were seeing stuff they hadn't seen before."

> "THE POINT OF REGENERATIVE IS TO REACH A PLACE WHERE YOU DON'T HAVE TO SUPPLEMENT AS MUCH, BECAUSE YOU'VE PUT YOUR ANIMALS IN SYNC WITH THEIR ENVIRONMENT."
>
> —CAITLIN HEBBERT

After grazing under denser conditions and a little bit of pressure, she says, the cows learned to forage and eat more of the present plant species. Helping herds regain that natural skill through biomimicry increases pasture utilization, extends the grazing season and can improve livestock health with a more diverse grazing diet.

Goodwin revisits the point that by managing the timing, the frequency and the duration of regenerative grazing, producers should be able to limit issues with performance while caring for the soil, if there's adequate forage. "But come February," he acknowledges, "if forage quality isn't adequate to meet nutrient requirements for that cow, there is going to be a need to supplement, and that's OK."

Contrary to another part of the performance myth, supplementation to meet the needs of the cow in a regenerative system is not off the table, Goodwin adds. The goal is to be supplementing for forage quality to keep cows in condition, rather than paying to substitute for lack of forage quantity.

Steers graze on mixed cover crops and bermudagrass as part of high-intensity grazing and regenerative ranching research at Noble Research Institute's Oswalt Ranch.

Paul Luna, facilities and ranch assistant at Noble Research Institute, runs polywire for temporary grazing paddock fencing near the Institute headquarters.

MYTH:

Regenerative ranching requires too much costly infrastructure.

TRUTH: Does regenerative ranching require you to put in 17 miles of permanent fencing, 18 concrete water troughs and clear all the brush on the ranch before you can start? Not at all.

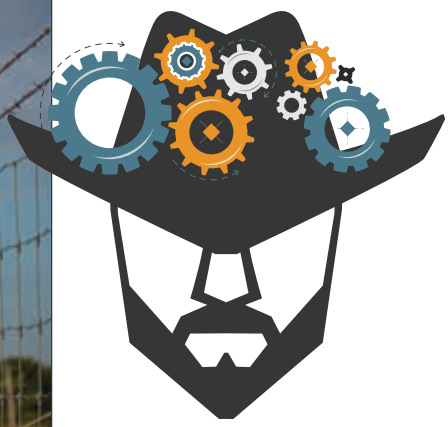
"You can start right where you are," Hebbert says. "This is all about adaptability, and there's nothing adaptive about saying 'you're not regenerative until everything is split up within a certain amount of acres.'"

Goodwin echoes that advice: "Start with the infrastructure and conditions you have."

Both consultants recommend temporary fencing to make smaller paddocks that can use the same water source. Or use a movable water trough that quick-connects along a pasture pipeline. If brush density is an issue, make a brush control plan, and start on it as you can. "Infrastructure challenges need not preclude you from beginning the journey of being regenerative," he says.

People hear "regenerative" and worry about spending too much money on water and fences, Hebbert explains, "but consider where your investment is now. Sit down and pencil out how much money you spend feeding your cattle all winter; the labor and fuel to haul hay; money lost by not utilizing your pastures to the best of those animals' abilities."

It's a matter of changing the investment from production to adaptability. "You could adapt that herd where you don't have to do that winter feeding anymore," she adds.



PRINCIPLES, NOT PRACTICES

It's understandable to have myths, or preconceptions, about what may be a new way of looking at ranching and grazing management. For many producers, it's not uncommon to use practices just because "we've always done it that way" or because they've come to depend on them to reach some level of productivity. Most may not instinctively look to principles as a guide.

But rather than reaching for practices or prescriptions to repeatedly fight a broken ecological system, regenerative principles are a method to mend the ecosystem processes on the land. Regenerative ranching is about letting each piece of the system (soil, plant, water, animal and the producer) work synergistically. "The land was made for the cattle, and the cattle were made for the land," Hebbert says. "And we are stewards of the land and the animals."

The biggest thing, the first thing, is getting the mindset right, Goodwin believes. Stepping back and looking at the community of your ranch from a holistic perspective, not as individual pieces. "Once you see the picture differently, your mindset begins to change. And you're ready to start regenerative ranching, right where you are."

Integrating cattle and other grazing animals into their operations is one of the six soil health principles followed by regenerative ranchers and farmers.

SUPERCHARGE YOUR MINDSET

We asked three regenerative ranchers for insight into what kind of mindset sets them up for success — and for advice to help jump-start the journey for others. This is what they said:

- Stay curious.
- Ask questions.
- Remain humble.
- Seek out resources, learn, and attend workshops.
- Keep an open mind and be willing to try.
- Manage with the whole system (soils, plants, animals, air, water and people) in mind.
- Work with, not against, nature.
- Practice the six soil health principles (see page 29).
- Don't be afraid to learn through trial and error.
- Don't be afraid to ask for help.
- Plan, observe, and adapt as needed.
- Don't give up.

BY COURTNEY LEEPER GIRGIS

THE Power OF A Regenerative Mindset

REGENERATIVE RANCHERS draw energy from their desire to improve the land and other productive attitudes.

Rosie Burroughs is quick to say a regenerative mindset is not made overnight.

She and her husband, Ward, farm and ranch in Merced County in the San Joaquin Valley of California. Through the years, they have built on their family's legacy by bringing their children — Christina, Benina, Zeb and Joe — and their families into the business. Together, through a combination of partnerships and independent enterprises, the members of Burroughs' family operate a grass-based dairy; raise beef, sheep and poultry on native range and in multispecies pastures; and grow almonds, olives and walnuts.

"It takes time to learn, time to transition," Burroughs says. "That paradigm shift is something like a lightbulb. It switches on, and you say 'OK, great. Now I get that and why it's important.' Then you continue to learn more, fine-tune, and experience other lightbulb moments."

It was her father-in-law, Ernest, who took the paradigm shift the hardest when Rosie and Ward joined the family beef, dairy and crop operation in 1974 and started pushing for more holistic thinking.

Ernest grew up on a grass-based dairy in the 1920s and '30s before being swept up in the generation of farmers and ranchers who were repeatedly told they needed to increase production to improve their livelihood. For the Burroughs family's dairy, that meant moving cattle inside and bringing high-quality feed to them rather than encouraging the cattle to harvest their own fresh forage.

Milk production went up in that conventional system, but Rosie and Ward could see they were not tapping into nature's cycles — freebies for the farmer.

Instead, they had removed the cattle's ability to act as a conduit of the sun's energy, to play their role in a fundamental cycle: The sun feeds the grass through photosynthesis, grazing animals eat the grass, then those animals deposit nutrients back into the grass as natural fertilizer.

When Rosie and Ward told Ernest they wanted to manage for grass and the entire ecosystem rather than for high milk production, he was skeptical. Very few ranchers were managing their grass in the U.S. at the time. But the couple and their daughter, Christina, who had brought back ideas from the grass-based dairies in New Zealand, began managing for a diversity of plants in the pasture. They began moving cattle from paddock to paddock in order to work with, not against, the energy cycle.

Ernest saw the results and was impressed.

"He lived out his life here on our farm, where he could watch the cows go in and out from the pasture twice a day for milking," Burroughs says. "He said he never would have believed it could be done and that it was one of the most beautiful sights he got to see in his retirement."

She says even though she and Ward still don't have all the answers, their minds are made up. The regenerative journey is worth it, for their family, their land and livestock, and their community.

The Burroughs family isn't alone.

Gail Fuller went broke trying to keep up with the conventional corn-soybean game on the eastern edge of the Flint Hills in Kansas, near Severy. He is now reversing erosion and building up a healthier land resource for his kids and grandkids while raising grass-finished beef and lamb, pastured pork and poultry, and fruit and nut trees.

Jake Miller returned to his family's crop and beef operation near Culbertson, Nebraska, after college, intending to both farm and ranch until he realized grazing was his best opportunity to improve his soil and its ability to hold water. In the frequently drought-stressed region, he and his father, John, graze their cattle longer due to their management.

The stories of people committed to leaving the land better than they found it are countless.

Each regenerative rancher faces a unique set of circumstances, both personally and financially, as well as in terms of land resources and environmental conditions. However, underlying their commitment is a powerful mindset that energizes their journeys.

The intricacies of this mindset vary from person to person, but patterns begin to emerge in conversations with Burroughs, Fuller and Miller.

The following is a look inside a mindset focused on tapping into age-old truths about how the land works for the benefit of the ranch and beyond when managed regeneratively.

Sheep graze the grass and other forage plants growing among the trees in one of the Burroughs family orchards. This is an example of a regenerative system known as "silvopasture," integrating trees, forage and livestock.

Photos courtesy of the Burroughs family

Rosie Burroughs and her husband, Ward, have been part of a 120-plus-year family farming legacy in California since 1974. Today, the Burroughs family, including three of their four children — Christina, Benina and Zeb — and their families, manage multiple certified organic operations, including a grass-based dairy; beef, sheep and poultry enterprises; and almond and olive orchards. Their home base is Merced County, in the San Joaquin Valley.

Noble Research Institute works with producers and experts from like-minded organizations to study and share regenerative ranching information. This group explores forage growth and progress in a pasture on Noble's Red River Ranch in Burneyville, Oklahoma, in summer 2021.

Finding Strength in Humility

The regenerative path is not a new one, but it typically is a divergence from the mainstream. Especially for those who have grown up in agriculture, this means there is a lot to learn and unlearn. Even for those who did not grow up on a farm or ranch, the journey requires humility and a recognition that decisions made on the ranch affect not just the family on that piece of land, but also society as a whole.

Fuller grew up on a typical Kansas family farm and went out on his own in the 1980s, expanding his operation to 3,200 acres of Roundup Ready corn and soybeans. He was interested in no-till early on and, after a few failures, transitioned completely away from tillage in the 1990s. However, he was still using tremendous amounts of synthetic fertilizers and pesticides and seeing significant erosion.

Looking back, he says, he had "foolishly" thought he'd reached the "pinnacle of farming" when he moved to no-till. But in the early 2000s, he began to learn more about the connections among the soil, water and human health, including the reality that runoff from his farm could negatively impact water quality for others.

It was a thought Fuller says he couldn't stand, and he immediately began finding ways to improve soil health in order to reduce his input use. A financial crisis in the 2010s pushed him to further change his model from focusing on crops to grazing livestock.

Fuller was faced with the realization that he had to admit he didn't know it all and that he could do better.

"It's difficult for any human to admit that maybe they've done wrong or aren't doing everything to the best of their ability," Fuller says, "but I care about my kids and grandkids. I knew I needed to make changes so future generations could have the same chance to do what I'm doing."

> "IT'S DIFFICULT FOR ANY HUMAN TO ADMIT THAT MAYBE THEY'VE DONE WRONG OR AREN'T DOING EVERYTHING TO THE BEST OF THEIR ABILITY."
>
> —GAIL FULLER

On the regenerative journey, humility is not just about recognizing needed change. It assumes that others can have good — or even better — ideas, and that every living thing is valuable and worthy of consideration in decision making.

As Burroughs puts it, "We like to have an open heart as we seek information and knowledge about how to go about our land stewardship," which she sees as her family's greatest responsibility. "God has created this planet and us on it, and it's up to us to make sure we are not only conserving and protecting it, but that we're also rebuilding and regenerating it. We want to make sure everything we're working with, from the microbes in the soil to the birds in the air, has an environment that is nurturing."

Don't Break the Circuit

Early 20th-century conservationist Aldo Leopold once described the land as "a fountain of energy flowing through a circuit of soils, plants and animals."

Regenerative ranchers recognize they are not managing cattle or sheep or goats in isolation. They are managing a whole system made up of interconnected parts: the soil, water, air, plants, animals and themselves (the decision-makers). The connections are endless, and activity in one area sets off a chain reaction of changes (positive and negative) in all the others.

"When you look at the whole and see that everything is interrelated, you make decisions for the whole," Burroughs says.

That means managing for life in the soil as well as above it: keeping the ground covered with a diversity of plants and animals; minimizing disturbances, such as tillage; and keeping living roots in the ground to feed soil microbes.

It also means being profitable. The whole circuit must include economic and social factors, which affect the well-being of individuals and communities. For ranchers to be able to continue caring for the land and making long-term decisions, the land must also support them.

"You can't just focus on profit," Burroughs says. "You have to think about the environment and the rest of the whole. But the operation has to be economically viable. Otherwise, people aren't going to be able to continue ranching."

This shift to thinking about the whole — not just cattle — is one of the biggest changes Miller says he has had to make.

"We've had to change our mindset from grazing and doing everything for the cow to turning the cow into a tool for what the land needs," he says.

In the past, his family stretched forage resources in order to preserve the cow herd during drought. They grazed the grass hard, as long as they could. Then they would supplement with dry feed.

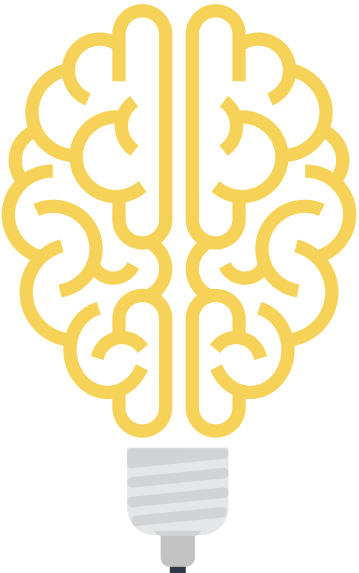
Now, they closely monitor their grass supply and match cattle to it.

"We're watching for what the land needs to heal itself," Miller says. "We're not afraid to sell cattle when we need to protect the land resources. It's better than trying to stretch those resources and losing animal body condition in the process."

Managing for the whole also can mean changing one's thinking toward some of the individuals who make up that whole.

Fuller, a lifelong farmer, was brought up to believe insects are the enemy. Now he sees them as a sign the ecosystem is coming back to life. For every pesky insect he sees, there are an estimated 1,700 others that are either beneficial or neutral. These are not just pollinators. Insects play roles in the carbon and water cycles, and many of them are still unknown in terms of their contributions to the land.

"I've lived my whole life with a kill, or conquer, mentality," Fuller says. "I'd wake up every day and think, 'What do I have to kill today?' Now I have the mentality, 'What do I need to grow today? How do we fix this farm with life instead of death?'"



REVITALIZE USING 6 SOIL HEALTH PRINCIPLES

Regenerative ranchers follow these six principles to help them improve the land:

KNOW YOUR CONTEXT.
Know your individual situation, including your climate, geography, resources, skills and goals.

COVER THE SOIL.
Soil health cannot be built if the soil is uncovered or is moving.

MINIMIZE SOIL DISTURBANCE.
Mechanical soil disturbance, such as tillage, alters the structure of the soil and limits biological activity.

INCREASE DIVERSITY.
Increasing plant diversity first creates an enabling environment and catalyst for a diverse underground community.

MAINTAIN CONTINUOUS LIVING PLANT ROOTS.
Maintaining continuous living plant roots is required to keep the soil biology processes working, no matter the season.

INTEGRATE LIVESTOCK.
Livestock are a necessity for healthy soils and ecosystems.

Spark Life-Long Curiosity

Fuller didn't move away from his "kill mentality" without help. He asked questions and sought out answers.

In the case of the insects, Fuller found a conference where an entomologist was speaking. He went to listen, then he started asking questions about what insects do and why he should avoid destroying them and their habitat.

He also experimented on his own. In 2008, Fuller planted side-by-side fields, some with neonicotinoid-treated seeds for insect control and others with non-treated seeds. He found no yield difference in the crops but saw definite losses in diversity in the fields planted with treated seeds.

"That was a really big confirmation to us that we were on the right track," says Fuller, who since has eliminated insecticides and fungicides from the operation.

Regenerative ranchers aren't satisfied with the status quo. They want to do better, both for themselves and the land, and getting there can mean moving into unknown territory. They have to be curious enough to venture into the darkness and find those who can help illuminate their path.

Ranchers can find information and resources online and by going to workshops, conferences and seminars, Burroughs says. She and her husband, Ward, sought out the advice of Ranching for Profit early in their career. They continue to attend events and learn from other farmers and ranchers as well as consultants.

"I feel that we have probably only just begun to scratch the surface of what we know," Burroughs says. "We can spend the rest of our lifetimes improving on what we're learning."

Calves graze part of a summer pasture on the Miller ranch in Nebraska. In drought years when pastures are stressed, Jake and his father, John, can reduce their head count by selling off yearlings while keeping the cow herd intact.

Photos courtesy of the Miller family

Jake Miller returned to the family farm near Culbertson, Nebraska, after graduating from college in 2013. His grandfather and father had already started down the regenerative path with their beef and crop operation when Jake was in high school. Today, the Millers no longer grow cash crops and instead focus on grazing to improve the land's health and resiliency in their drought-prone region.

Joe Pokay, Noble's ranch manager, monitors a diverse mix of cover crops at Red River Ranch. Seeding mixed forage species can benefit soil health and grazing herds.

"THE SUCCESSFUL PEOPLE I HAVE SEEN [ARE THE ONES WHO] TAKE TIME TO MONITOR THE RANGE AND SEE WHAT'S OUT THERE IN TERMS OF PLANT HEALTH AND RANGE CONDITIONS."

—JAKE MILLER

Generate a Plan, Monitor and Adapt

Regenerative ranchers know their resources — the soils, plants, animals, water, markets and overall environment with which they are working.

Miller and his father take time to inventory their grass and plan at least one to two grazing seasons, or about six months, in advance. Miller uses Google Earth Pro to map out their acreage and paddocks, then he tracks grazing moves and other observations in the PastureMap app. His father uses an Excel sheet from the University of Nebraska, "Pasture and Hay Records."

"The successful people I have seen [are the ones who] take time to monitor the range and see what's out there in terms of plant health and range conditions," says Miller, adding that this includes taking historical data into consideration.

In southwestern Nebraska, Miller knows that grazing grass too short one time may mean needing three to five years for recovery. The Millers carefully monitor what grass they have and how many animals they need to match that, and they have built in contingency plans to make themselves more flexible.

Prior to the drought of 2013, the Millers always sold calves in February. They lost about 40% of their cow herd due to the drought. Instead of replacing those cows, they started a yearling enterprise. Now they graze calves through the summer, so when drought threatens, they have a group of animals easy to sell in order to reduce stress on the land and keep the cow herd intact.

"That's been a big part of our success in drought years," Miller says, "just having cattle that can go at any point if they need to, so the grass can last."

The Millers also watch for other threats to the grass, such as when hail damaged pastures in a July 2020 storm. They built time into their grazing plan to rest affected areas, not letting cattle access them until late September 2021. Even then, the plan was to graze lightly — go in, take the best forage and get out.

Plans change based on observations and penciled-out numbers.

Miller says he was against using supplemental protein for the cattle when he first came back to the ranch after college. The family doesn't supplement like they used to — they don't need to, thanks to their management. However, they have observed that a little extra protein can improve both animal performance and the land.

"We're able to target species of grasses that we could not get the cattle to touch without the protein supplement," Miller says. "It's made quite a difference. But I'm conscious of the cost of everything we do. I'm definitely using products where I know we're getting the bang for our buck."

Successful plans also adapt to accommodate new enterprises and opportunities that make the most of what is available.

Miller found himself with extra time on his hands since he wasn't feeding cattle. He also wasn't satisfied with the generic supplies available in his area to help make daily cattle moves easier, particularly solar electric-fence chargers. So he decided to fill the market gap by starting a new business: Livewire Fence Supply.

"I see this a lot in my peers," Miller says. "It may not be a retail business; maybe it's custom grazing or something else. But many people find themselves open to new ideas and plans that bring in additional revenue streams."

The key is to be observant, both when working on the land with a current plan and when looking for opportunities for the operation's future.

"Take the time to be an observer, to look at what you're doing, and to know if what you're doing is working," Burroughs says. "It's good to be open-minded and willing to try."

Gail Fuller and his partner, Lynnette Miller, grow grass-finished beef and lamb, pastured pork and poultry, and fruit and nut trees on the eastern edge of the Flint Hills in Kansas, near Severy. A self-proclaimed "recovering conventional farmer," Fuller began his journey of doing better for the land in the early 2000s through crop production and is now focused on grazing.

Photos courtesy of the Fuller family

Failure Is Not Weakness

Even the best plans will sometimes fail. This should be expected on the regenerative journey, Burroughs says.

"You have to set your plan based on your locale," she adds. "This isn't a cookie-cutter process in which you can mimic exactly what someone else is doing across the country."

Every environment, every location, every farm or ranch is different, and the animals and land must be managed accordingly. Decisions should be based on the whole and made within the operator's unique context.

Communication is key when working with others on a project.

"Set a time to meet and plan and make decisions, to avoid frustration and ideas not being shared and brought to the table," Burroughs says. "Have a succession plan in which you know how the operation will move forward in the future. Cultivate leadership in those who will take over someday."

And don't be afraid to fail.

> **"WHEN YOU SEE THAT, THROUGH YOUR PRACTICES, YOU'RE BRINGING LIFE AND LIFE CYCLE INTO YOUR RANGELAND, IT'S A VERY BEAUTIFUL SIGHT. OUR MINDSET CONTINUES TO CHANGE. THIS IS A JOURNEY. IT TAKES TIME, BUT IT'S ONE OF THE GREATEST THINGS WE CAN DO."**
>
> —ROSIE BURROUGHS

"It's important to not feel that a mistake is a failure," she says. "It's a learning experience and something to put in your pocket and keep going."

After more than 20 years, the Burroughs family has seen life return to the soil and rangeland. They've created habitat for wildlife and watched birds they've never seen before cross their farms and ranches. Their natural water springs are protected, and their healthier soils are not only sequestering carbon but recharging aquifers.

Fuller is pleased to no longer see water standing in his fields, even when roadside ditches are full of rainfall.

Miller, too, no longer sees standing water and knows his land is more resilient in drought. He says when he was kid, he would rarely see earthworms. Now, he can go out and dig up a shovelful.

"When you see that, through your practices, you're bringing life and life cycle into your rangeland, it's a very beautiful sight," Burroughs says. "Our mindset continues to change. This is a journey. It takes time, but it's one of the greatest things we can do."

A British White cow/calf pair are part of Gail Fuller and Lynnette Miller's grass-fed beef herd on the eastern edge of the Kansas Flint Hills.

POWER UP WITH RESOURCES

Regenerative ranchers are continually learning and sharing their knowledge with others on the journey. Ward and Rosie Burroughs helped create the Center for Regenerative Agriculture and Resilient Systems at California State University, Chico. Gail Fuller and Lynnette Miller bring people to their ranch to learn through the Fuller Field School.

More helpful tools:

- Google Earth Pro
- "Grazing and Hay Records" Excel spreadsheet from the University of Nebraska
- PastureMap app

You can also sign up to receive *Noble Rancher* — a free, weekly email with regenerative information and advice from Noble Research Institute — at **noble.org/subscribe**.

AMP IT UP

A RANCHER BECOMES A BELIEVER in adaptive multi-paddock grazing, one of the keystones to regenerating degraded land into healthy, productive pastures and soil.

BY WILL CHAMBLEE

MINDSET SHIFT

Kent Donica went from skeptical rancher to regenerative advocate after seeing what adaptive-paddock grazing did for his once-barren Ardmore, Oklahoma, property in the 1990s.

Kent Donica needed grass, and he needed it fast.

In 1992, Donica had exhausted his savings to buy a 40-acre property four miles east of Ardmore, Oklahoma. The previous owner was an order-buyer who handled an average of 10,000 head of cows a year. The massive herd had left all 40 acres barren. Now, the property looked like it belonged in a "Mad Max" movie.

Donica needed a return on his investment, and that required grass for his livestock to graze. His options were limited, so he decided to use his remaining funds to sprig half of his field with bermudagrass. But along came Charles Griffith, who offered Donica an alternative. Donica didn't know it at the time, but Griffith would change the way he ranched forever.

LEADING THE WAY

In his 36 years with Noble Research Institute, crops and pasture specialist Charles Griffith preached the gospel of AMP grazing.

GRIFFITH HAD A REPUTATION. The crops and pasture specialist at Noble Research Institute was known for what were, at the time, new and industry-defining ideas on livestock grazing. Today, Griffith's ideas are called regenerative ranching and adaptive multi-paddock grazing (AMP). Back in the early 1990s, Donica called it "New Age B.S."

AMP mimics the way livestock used to graze pastures, using high stocking density over a short period, allowing the livestock to take the top half of the grass, then giving the plants enough time to fully rest and recover. The recovery process that AMP stimulates generates growth in the plants and promotes the regeneration and health of the soil.

While Griffith had seen AMP grazing work on multiple ranches, most ranchers, including Donica, remained skeptical.

"He (Griffith) was kinda thought to be slightly past the lunatic fringe," Donica said. "The idea of putting a bunch of cattle in a spot for a little while and then moving them? It was very out there."

But in his situation at the time, Donica didn't have the luxury of being skeptical. When Griffith offered to reseed half of Donica's property, on the condition that they do it using AMP, Donica said "yes." Some might call the decision a leap of faith. In reality, it was a leap of desperation.

"In truth, the only reason I did it was because I didn't have enough money to sprig the whole property," said Donica with a laugh.

Donica followed his regular routine when planting his side of the property; plowing, fertilizing and liming the field, pouring all the resources he could afford into the pasture. For Griffith's side of the property, Donica was instructed to simply "let it rest."

Spring soon rolled around, the seeded grass had grown, and Donica was finally ready to graze it with his livestock. He went to Griffith for directions on how to graze the "resting" side.

"Go in and take half," Griffith told Donica.

"Why the hell can't we take it all?" Donica said incredulously.

"Because we're going to take half," Griffith replied, with a calm demeanor.

Mystified by the reasoning behind Griffith's instructions, but true to his word, Donica only grazed the top half of the grass Griffith's side. Donica didn't know it, but by using AMP, he had allowed the half-grazed plants to continue to photosynthesize, causing the existing root system to keep growing. It didn't take long for Donica to see why Griffith was a believer in AMP grazing.

"In two years I had more grass on that [Griffith's] side than I did where I spent $50 an acre," Donica said.

Donica was converted.

ADVOCATING CHANGE

Kent Donica, right, talks with Allen Williams, a co-founder of Understanding Ag LLC and the Soil Health Academy, in a field at Noble Research Institute's Coffey Ranch. Donica seeks to help other producers understand the benefits of regenerative practices, one rancher at a time.

THE RIGHT MOVE

Joe Pokay (below) is the general ranch manager at Noble Research Institute. Here he's on horseback moving cattle to a fresh grazing area on Noble's Coffey Ranch, a new practice as Noble moves to regenerative management of all seven research ranches.

Two years ago, Noble Research Institute was converted as well.

Noble's governing body made a bold and deliberate decision to help farmers and ranchers build up the soil. The Institute set its sights on regenerative ranching.

Regenerative ranching's main goal is to regenerate degraded lands. AMP grazing is one of the keystone practices of regenerative ranching and helps apply the six principles of soil health (see page 29). AMP promotes plant growth, achieving valuable plant diversity while keeping the soil covered, undisturbed and the root systems growing.

Joe Pokay was hired as the new general ranch manager to implement regenerative management on Noble's 13,500 acres of ranches. The task may seem daunting from the outside, but Pokay has accumulated a decade's worth of experience in ranching regeneratively, even if he didn't know it at the time.

Ten years earlier, Pokay discovered AMP grazing and its benefits. It wasn't pure happenstance that led Pokay to the regenerative process, rather a keen eye for livestock and ranch management.

Pokay began to notice that when he grazed certain sections of pasture intensively with a high stocking rate then quickly moved the livestock to a different section, the grass rebounded with vigor. When Pokay realized the connection, he had what he calls a "hit-you-in-the-face moment."

Pokay experimented with AMP, increasing and decreasing the intensity and stocking rate, finding a happy medium that worked for his property. Pokay discovered a correlation: as the intensity and stocking rate increased, the amount of diversity and desirable plants increased. Pokay also found that his land absorbed water better and was more drought-resistant. For five years, Pokay wasn't completely sure what he was doing, but he knew that it worked.

"Once you see it do good things for the land, it's self-serving," Pokay said. "For me, the floodgates just opened, and I couldn't get enough of it."

Pokay's technique was simple. He'd rope off a new paddock for his livestock to graze, let them graze three to four days, then "rinse and repeat." The freshly-grazed paddock was then set aside for two months, allowing the grass to recover and the root systems flourish. After five years of successful AMP grazing, Pokay decided to research why his techniques were working. It led him straight to regenerative agriculture.

Now at Noble, Pokay has begun to implement the same changes on Noble's seven ranches. Like most change, there have been growing pains. Pokay and Noble are still adapting to the unique quirks that exist on each of the Noble properties. Maintaining good cow conditions and controlling brush encroachment have been constant struggles for Noble when implementing AMP grazing. But AMP grazing isn't a step-by-step process, it's an art. It requires flexibility, responsiveness and adaptability.

"Even here at Noble, every pasture is different on how you apply these regenerative principles," Pokay said. "This isn't a list of do's and don'ts, it's about a mindset that is rooted in applying the six principles of soil health to your operation."

When applied correctly to the individual's property and circumstance, AMP grazing can be wildly successful. It only took one growing season for Pokay to notice marked improvements in the soil and plant health on the Noble Ranches. New species of grasses have begun growing in previously bare spots. Noble has also reduced its operating costs by reducing fertilizers and equipment use.

While Pokay and Noble continue to convert Noble's ranches to regenerative practices, they have turned their focus to helping ranchers regenerate the rest of America's grazing land. 13,500 acres down. 654 million acres to go.

CONVERTING 654 MILLION ACRES isn't the biggest obstacle Noble faces. Guiding thousands of farmers and ranchers on their own adoption and use of regenerative principles, well, that's the real challenge.

Changing family tradition and generational practices takes time and evidence. But the current ranching climate requires a shift.

Fertilizer prices are increasing. Drought is sweeping the western half of the nation. The soil health of the nation's grazing lands is declining. Yet just like in the 1990s, farmers and ranchers are still skeptical of regenerative agriculture and AMP grazing. Donica can't figure out why.

"You can show them this is not working and they'll keep doing it," Donica said. "They would rather fail in their comfort zone than succeed outside of it."

Part of the issue comes from the common misconceptions that surround AMP grazing and regenerative agriculture as a whole.

Some believe that AMP grazing will cost more to implement. In reality, it costs less. Ranchers will save money on fertilizers and reduced equipment needs, Pokay said.

Others believe that using AMP grazing will take more time out of their busy day to move cattle. In reality, AMP grazing doesn't take any longer than regular grazing techniques. Ranchers will save time by not having to apply multiple inputs.

However, the toughest barrier to overcome isn't cost, time or work. It's a mental barrier. To begin the journey of regenerative ranching and implement AMP, farmers and ranchers need to change their mindset, Donica said.

"I tell people, look, the big change ain't out there in your pasture," Donica said. "The big change is right between your ears."

Donica and Pokay were raised in traditional ranching and know how difficult it is to ask people to deviate from it. After all, traditions, habits and culture are part of what makes us human. They know the road to implementing AMP grazing nationwide will be a long one.

So, for now, Pokay and Donica will continue to help those who are interested understand the benefits of regenerative ranching and AMP grazing, one rancher at a time. Pokay knows though, that one day farmers and ranchers won't have a choice.

"Don't wait for a bad thing to happen before you change," Pokay said. "Be proactive, not reactive. You can start grazing animals regeneratively now to help your soil. Look at it and try to get ahead of the curve before you're caught and can't fix anything."

Pokay found AMP grazing and regenerative ranching through trial and error. Donica came to it through necessity. Either way, it doesn't change the impact AMP grazing can have.

"Try it," Pokay said. "Try it on an area. See what happens."

MIKE CAWLEY joins the growing list of donors to support Noble Research Institute, adding another step together in a journey that has spanned decades.

A Legacy EXTENDE

BY J. ADAM CALAWAY

This is Mike Cawley's Noble legacy — extended.

Even those who know Mike Cawley well have never heard the bulldozer story.

In Spring 2005, Noble Research Institute (known then as The Samuel Roberts Noble Foundation) was near completion of a historic campus expansion that would double the organization's footprint to more than 500,000 square feet.

Noble's Ardmore campus was abuzz with construction. A massive tunnel system had been installed under the new campus. Three new buildings had been erected. A backup power station was built to ensure a constant flow of energy to the campus even during poor weather. Still, there was dirt work to be done, so heavy machinery remained a mainstay of campus life.

Cawley, Noble's president at the time, was one of the architects of this immense project, and he was not content to be a spectator. His staff knew Cawley as the stalwart captain of Noble's ship. To better Noble, to empower farmers and ranchers, Cawley would move heaven and earth. On this day, he was going to do the latter.

With nothing but blue skies as his witness (and one sneaky photographer), Cawley emerged from his office looking like anything but the dapper president. His trademark blue suit, white shirt and silk tie had been ditched for work clothes. In chinos (which few had ever seen him wear), a hat and sneakers, he looked like any dad headed to Lowe's. A handful of looky-loos assembled. This was a surprising moment. It was like watching Superman in overalls.

Cawley climbed aboard a bulldozer and — after a short tutorial — began moving dirt. Cawley would be the first to point out that his intentions were not purely altruistic. Childhood dreams need to be fulfilled after all. This was no joyride though. He was working, focus etched on his face. He approached moving that soil like he did everything – with intention and excellence.

"Oh, I remember that day," Cawley says. "That was the first time I ever drove a bulldozer, and it was on our project. It was a fun and special moment."

Six years after he climbed out of the bulldozer's cab, Cawley retired from Noble. He is the longest tenured president in the organization's history, serving 20 years (or nearly 30 percent of Noble's 75 years).

A decade after he gave his farewell speech, the man who wrote volumes in Noble's annals is adding one more chapter. Through his career, he's held many titles with Noble — general counsel, board member, president, and now finally donor.

A NOBLE RECORD

Mike Cawley is the longest tenured president in the organization's history, serving from 1992 until his retirement in 2012.

In 2005, Noble president Mike Cawley traded his suit for chinos and fulfilled his childhood dream of driving a bulldozer.

A NOBLE JOURNEY

To know Cawley is to know his wife, Betty Jane, a modern Audrey Hepburn if there ever was one — classic, elegant and gracious. They moved to north Oklahoma City to be closer to family a few years after Cawley retired. Their new home is a magazine-ready showpiece that reflects the woman who decorated every inch of it.

An impressionist painting of a field of red flowers — picked up on one of their post-retirement vacations — greets visitors in the foyer. Broad, open windows allow a cascade of light to fill the spacious living room. The baby grand piano is positioned just so in the corner. (She plays. Cawley's baritone voice is a soothing, booming marvel.)

Betty Jane is away on a quick trip to Dallas, so Cawley is a bachelor for the day. He settles into an armchair and begins talking about his grandchildren when his cell phone dings. The text says: "Hey big guy, you up for some golf later?" He smiles and dismisses the text without answer. Golf will have to wait. He has to take a stroll down memory lane first.

A native of Hooker, in the Oklahoma panhandle, Cawley and Betty Jane came to Ardmore in 1972 just months after he graduated from the University of Oklahoma College of Law. His first law office sat one floor below that of Jim Thompson, a seasoned attorney with an excellent legal library he was willing to share. The two became acquainted and eventually shared office space.

Thompson himself had served as Noble Foundation president from 1953 to 1966, remaining as Noble's general counsel even after he left the corner office. By 1977, Thompson was ready to retire, so he introduced Cawley to Sam Noble (founder Lloyd Noble's son), chairman of the board of Noble Affiliates, as his recommended replacement. Cawley served as Noble general counsel for the next decade before Sam Noble asked him to join the board of trustees. Four years later, Sam Noble asked him to succeed John Snodgrass and become president.

Under Cawley's guidance, Noble experienced an unparalleled era of growth. Net assets increased more than 500 percent; the board of trustees invested more than $100 million to expand physical infrastructure; programming blossomed; and the employee base doubled. After all he had accomplished, Cawley concluded it was time to step aside. He said at the time that one of the most important decisions a leader can make is determining when it is time to leave, and this was his moment.

At an all-employee meeting in late 2011, he literally passed the baton to his successor Bill Buckner, stepped aside and let Buckner address his new staff — a magnanimous gesture that surprised no one. His retirement officially took effect on April 30, 2012.

A few weeks later, Cawley entered his office with cardboard boxes. He pulled one item off a shelf at a time and packed it away. When he came to a photo of his grandchildren, he said: "Grandparents play such an important part in the lives of their grandchildren. I want to be there for them. They're the reason I'm going."

AMAZING GROWTH

Under Cawley's guidance, Noble experienced an unparalleled era of growth. Net assets increased; infrastructure was expanded; programming blossomed; and the employee base doubled.

Mike Cawley (left) speaks with David Boren, former University of Oklahoma president.

LIFE AFTER NOBLE

True to his word, grandchildren have been the focal point of Cawley's retired life.

The Cawleys' two adult children, Kristen and Kevin, have increased the grandchildren total from six to eight in the last decade.

Cawley positively glows as he muses about watching his family grow. "We enjoy being a part of their lives as much as possible. The grandparent-grandchild relationship is special."

Of course, there's been the required post-retirement travel. He promised Betty Jane time away, and he's made good on that, as they've ventured abroad a few times. However, Cawley is a leader, and that doesn't just stop because he retired from a job. Cawley has always served on community and corporate boards throughout his 40+ year career. That only intensified in recent years.

"Oh, I've been busy with board work. Lots of board work," he says. "I've been asked to serve, and I've enjoyed doing so. I think my past experiences at Noble and with other community and corporate boards offers me a unique perspective in addressing problems. So, I'm happy to help out."

And help he does.

Omitting the dozens of past board appointments and focusing just on his current activities, Cawley supports the following civic and community organizations: The Merrick Foundation, the Dean McGee Eye Institute, the Dean McGee Eye Institute Foundation, the Oklahoma Medical Research Foundation, the State Fair of Oklahoma and the Oklahoma Arts Institute's investment committee.

All of which keeps this "retiree" more than busy. Cawley says he was satisfied with his balance of grandchildren,

travel and volunteer work in 2019, but then Gov. Kevin Stitt came calling. He asked Cawley to serve on the University of Oklahoma Board of Regents, filling the unexpired term of a departing board member. Cawley said yes, as he did again in March 2021, when he was appointed to serve as chairman of the board.

These requests to serve the alma mater that shaped his life were personal, and his response a testament to his dedication as an alumnus. Cawley continues to give time and energy to OU whenever he is called upon. During his time as Noble president, Cawley served OU as chair of the fundraising efforts associated with the completion of the Jimmie Austin Golf Club course at OU and the Charlie Coe Golf Learning Center. He also served on the search committee that resulted in the hiring of Joe Castiglione as the University's athletic director in 1998. He received the University of Oklahoma Regents' Alumni Award (1996/1997).

His service to his school continued the deep connection between OU and Noble as well. Founder Lloyd Noble; his son, Sam Noble; and daughter-in-law, Mary Jane Noble; all served as OU regents. "There are a great number of parallels, and I'm honored by it," Cawley says. "I really do feel like some of these invitations come because of my associations with Noble and my friendship with the Noble family."

As chairman, Cawley represented the OU board of regents at the 50th anniversary of the Game of the Century, when nationally ranked Oklahoma (No. 2) and Nebraska (No. 1) played for the Big Eight title on Thanksgiving Day, 1971. On a clear day in fall 2021, he stood on Owen Field as the Sooners prepared to play the Cornhuskers once again. Life had come full circle, as he had watched the original game from the stands as a senior in law school. A lifetime later, there he was again.

"I'll say this: The good Lord has done a remarkably good job in stewarding me, in moving me and keeping me engaged," Cawley said. "There has been a focus and appropriateness. I can honestly say that I've not done all the engineering. I'm thankful for the life I've lived."

It's this gratitude that keeps Cawley and Betty Jane in a continual state of giving, not just of their time, but also of their financial resources.

Cawley's pride shows in his smile as he helps plant a tree at the Farmhouse on the Noble Research Institute campus.

GIVING TO **NOBLE**

Slip up the back stairs of Cawley's new bungalow, and there is a loft just big enough for a home office and a couple of twin beds for grandchildren sleepovers. A mounted television swivels away from the wall and perches in front of a simple desk. It was here in the spring of 2021 that Cawley sat down and wrote a check to the organization he faithfully served for the majority of his life; an organization whose founding mission and vision — perpetuation of agriculture — and the land and the people who are its stewards — he wholeheartedly embraced.

"The more time I spent at Noble, the more I came to understand the incredible vision of Lloyd Noble and what he was trying to do for agriculture and our country," Cawley says. "Supporting agriculture and the people who conduct such work is as important today as it was in 1945 when Mr. Noble founded the organization — probably more so."

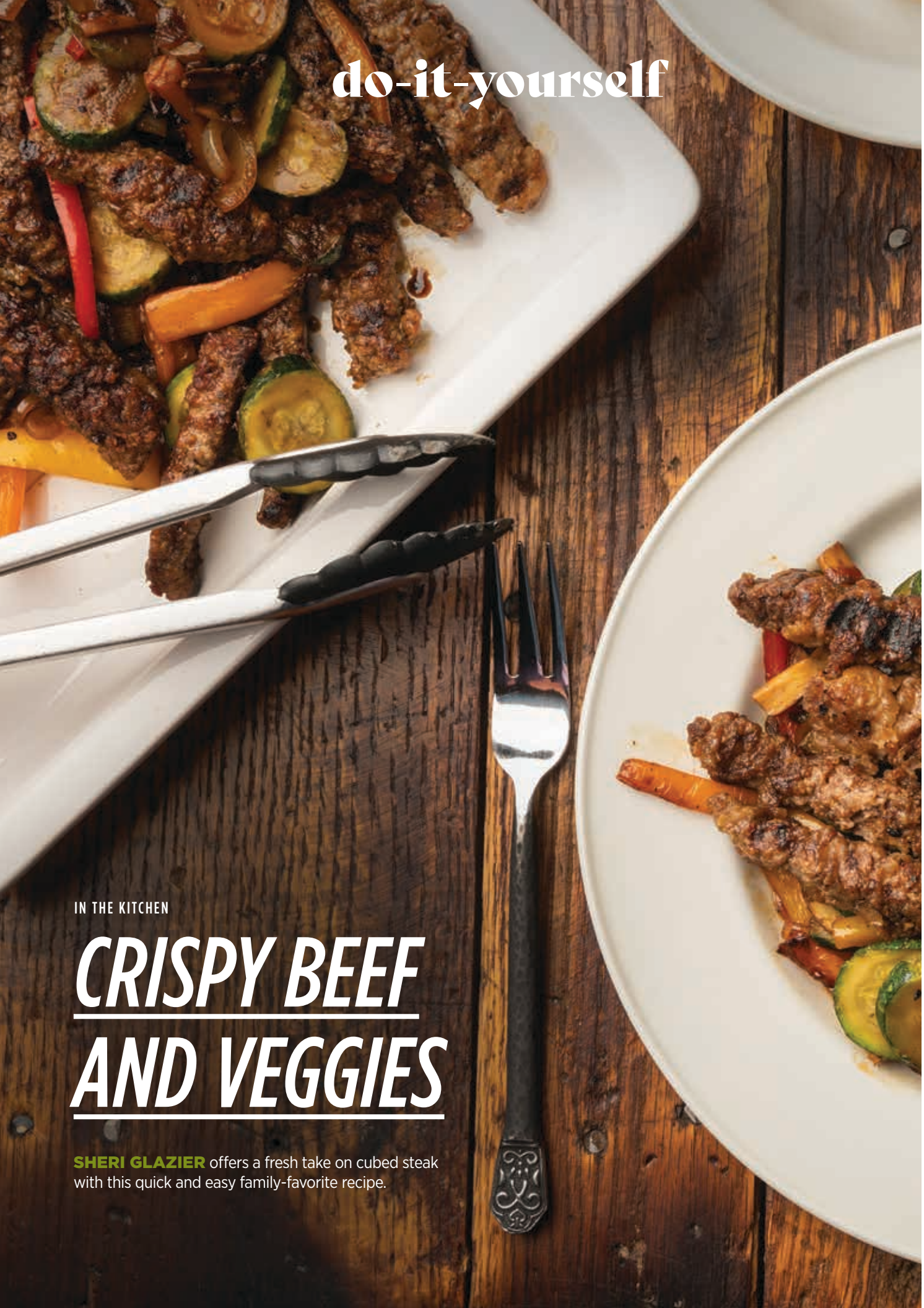
A NOBLE CAUSE

Cawley connects the deep moral and spiritual values conveyed through working the land to the broader impact Noble has on society at large.

As Cawley speaks, the muscle memory takes over. The new donor gives way to the man whose legacy is forever intertwined. The passion for Noble's mission returns as the former president once again becomes a Noble herald. He speaks with conviction about the founder's vision for the land and agriculture. He connects the deep moral and spiritual values conveyed through working the land — values like accountability and hard work — to the broader impact Noble has on society at large.

"Times and people will change, but the bedrock principles — goodness and quality — transcend changes in culture," Cawley says. "Noble perpetuates these things forward. Its mission is focused on agriculture. It's carried out through agriculture, but its impact is so much greater than any one sector or industry."

He pauses, smiles then becomes the donor again: "So there aren't a whole lot of better things someone can give to."



IN THE KITCHEN

CRISPY BEEF AND VEGGIES

SHERI GLAZIER offers a fresh take on cubed steak with this quick and easy family-favorite recipe.

The Dirt Road Dietitian

Sheri Glazier, MS, RDN/LD, is a registered dietitian and an Oklahoma farmer and rancher. With a bachelor's degree in human sciences and a master's degree in nutritional sciences from Oklahoma State University, Glazier uses her education and on-the-job skills as a nutrition consultant, speaker and culinary creator. In 2020, she was named Oklahoma's Outstanding Dietitian of the Year by the Oklahoma Academy of Nutrition and Dietetics. She received the Rising Star Award from the OSU College of Human Sciences in 2019.

Glazier resides with her husband, Kyle, and their two children in rural Oklahoma, where they raise wheat, sesame, hay and cattle. The closest town, Loyal, has a population of 79, which gives her a unique perspective on intentional grocery shopping and preparing meals for families.

FIND MORE RECIPES AT
dirtroaddietitian.com

Sheri says when it comes to vegetables, anything goes. Her favorite combination: mushrooms and zucchini.

INGREDIENTS:

- 4 beef cubed steaks (about 1 pound)
- 2 tablespoons olive oil
- ¼ cup corn starch
- Salt and pepper, to taste
- 1 zucchini
- 8 ounces fresh mushrooms
- 1 onion
- 1 red bell pepper
- 1 yellow bell pepper

For sauce:

- ¼ cup soy sauce
- ¼ cup honey

INSTRUCTIONS:

1. Place ¼ cup corn starch in bowl and season with salt and pepper.
2. Slice cube steaks into strips.
3. Coat steak slices in corn starch and leave in bowl to absorb for a few minutes.
4. Heat 1 tablespoon of the olive oil in non-stick skillet. Working in batches, brown and crisp up steak slices.
5. While the steak is cooking, prep and slice vegetables as desired for sauteing.
6. Once steak is all cooked, place cooked steak in a bowl and keep warm.
7. Add another 1 tablespoon oil to skillet and saute vegetables.
8. While vegetables are cooking, mix honey and soy sauce together in small bowl.
9. Add the sauce to the vegetables in skillet and stir.
10. Add the cooked steak back to the skillet, stir, and let simmer in vegetables and sauce.
11. Serve immediately with your favorite sides and watch it disappear!

IN THE FIELD

Solar-Charged Polywire Paddock

PAUL LUNA, Noble ranch/facility assistant, details how to set up a solar-charged polywire paddock and shares a few tips and tricks he's learned along the way.

MATERIALS:

- Electric gate handle
- Fiberglass posts
- Drilled fiberglass corner posts for corners and ends of gates
- Double foot tread-in fence posts
- Metal T-post for charger (optional)
- Insulated wire
- Turbo wire or polywire
- Geared fence reel
- Grounding rod
- Solar charger with battery pack
- Fence charger alligator clips
- Fault finder
- Survey flagging tape

WORTH THE INVESTMENT

A geared fence reel can save time when stringing fence and reduce repetitive stress on your shoulder. You also can use it to run polywire off the back of your side-by-side for larger installations.

Purchase a larger solar charger than you think you'll need.

A good fault finder is worth the extra expense.

4 Things to Consider Before Building Your Paddock

1

Before installing a large paddock, train your cattle on the polywire line by setting up a small electric fence near a watering trough. Remember, polywire is only a psychological barrier.

2

Look at the grade of the area where you are going to build your paddock. Grade will determine the kind and number of posts you use.

3

In some cases, you may need to add a second polywire line below the main one, especially where stockers will rest and in low-lying areas where cattle could travel under a single line.

4

Weight of stockers, number of head, stocking density and forage availability are the main determining factors when deciding the size of the paddock.

SEE THE VIDEO TUTORIAL:
www.noble.org/legacy/solar-charged-polywire-paddock

INSTRUCTIONS:

Building the paddock:

1. Connect a gate handle to the end of your polywire wound on a geared fence reel.
2. Attach the gate handle to a permanent fence or t-post using an insulated wire at desired wire height for the paddock.
3. Place a drilled fiberglass corner post on the other end of the gate.
4. Wrap the polywire through drilled hole at the desired height for the wire and then around the top of the corner post.

TIP: *Paul uses a polywire height of 36 inches for cows and 33 inches for stockers*

5. Drive another corner post into the ground at the next corner of the paddock, repeating the tie process.

TIP: *Survey flagging tape helps the polywire line be more visible to you and the cattle. Also use tape near forested areas and shaded areas where cattle might rest.*

6. Tighten the slack on the polywire so the line does not dip.

7. Place fiberglass fence posts 10 to 11 yards apart between the two corner posts.

TIP: *For low lying areas use a tread-in post instead of a regular post. This will insure that the line stays at the recommended height no matter the grade of the land.*

8. Repeat the process until you get to the last side.

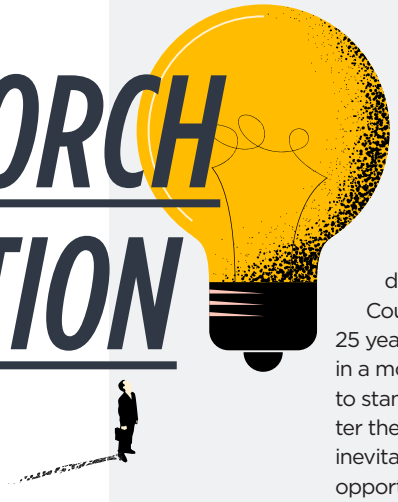
TIP: *If forage is high or wet use your side by side to push down the path where your polywire fence will go.*

9. Using the fence reel to make a second gate between the last corner post and the permanent fence may be an option, depending on location and number of paddocks you are building. Place the reel in the locked position and hang from the permanent fence.

Connecting the charger:

1. Hammer the grounding rod into the ground outside the paddock near the permanent fence and where you are connecting your solar charger.
2. Drive a T-post in the ground if your charger has a T-post mount. Otherwise, place the charger on the ground, and face and angle the solar panel for the most sunlight exposure, usually to the south in U.S. locations.
3. Connect the positive post of the charger to the paddock fence wire with the positive alligator clip, and the negative post to the grounding rod with the other clip.
4. Turn on the charger and test the voltage. If your voltage is lower than 4 kilovolts, use your fault finder to determine where the issue is.

BACK-PORCH REVELATION



BY J. ADAM CALAWAY

Things were not going well.

A few days before my first real speaking engagement (one where the audience was not filled with classmates required to clap), I was lost like a Boy Scout troop without a compass. The talk was a mess of random thoughts. The words were pudding in my mouth. The result was destined to be utter humiliation and social mockery.

An emergency call to grandmother yielded an invitation to her back porch. "Just come out to the farm," she said. "We'll sit on the back porch. You can give me the presentation, and we can talk it through."

The next day I was standing on the porch in the warm evening air. My grandmother was a Norman Rockwell painting. Silver hair. Bright smile. Sitting cross-legged in a lawn chair. She embodied patience and understanding.

The setting sun cast long shadows that wrapped around the porch. Cicadas buzzed like mini-lumberjacks in the nearby fruit trees. It was a perfect country evening, for everyone but me.

My notecards were already moist from my sweaty hands as I launched into my talk. For the next 15 minutes, my grandmother endured a presentation so painful I might as well have been trying to sell her a timeshare in Boca Raton. Exhausted and frustrated, I finished, tripping over the last few lines in an utter heap. My talk was the oratory equivalent of a dumpster fire.

My grandmother was unfazed. Though she had no college education, Colleen Carson had taught Bible studies for decades, and she moved seamlessly through her gentle critique, making the quick tweaks of a skilled lecturer. She helped clarify the message and organize my thoughts, then she hit on the fundamental problem: "You believe you are going to fail."

There it was. The issue wasn't remembering words or perfecting the timing. It was a mindset issue.

"Adam, be bold," she said. "Boldness is not pride or hubris. Boldness is the determination to stand up and try — no matter the outcome. Boldness is the willingness to put yourself out there despite the judgment. Boldness is the courage to meet your fears head on."

My grandmother spoke truth that day, and that back-porch revelation — Be bold — became my life's mantra. A few days later, I summoned my boldness and delivered my speech. It was far from perfect, but what I lacked in technique, I made up for with gusto. If I was going to run into a wall, I was going to do it at full speed.

Countless times in the last 25 years, I have found myself in a moment that required me to stand up and try — no matter the outcome, or face the inevitable regret of a missed opportunity. It's true what grandmothers say: Life is about mindset.

Our mindset determines our outcomes. We either believe we can overcome our challenges, or we don't. If we walk into a situation thinking we will fail, we will live up to those expectations every time. American author Louise Hay once wrote, "I do not fix problems. I fix my thinking. Then problems fix themselves."

As Noble ventures down the regenerative ranching path, we have already learned one indisputable truth — our mindset must change. Everything we have practiced and preached in the past is now up for examination and redesign. Our values are the same, but our minds are open to envisioning new approaches to old problems.

For the past two years, Noble's team has become the student: willing to learn, reassess and pursue a path that makes a difference. The entire Noble catalog of programming is under renovation, from how we run our ranches to how we assist producers. It's a humbling and necessary task for a 75-year-old organization.

We hope to exemplify the regenerative mindset in all we do. This way of thinking blends a desire to work with nature and a constant pursuit of learning with a tenacity that is not afraid to fail or to ask for help. As an organization, this is our moment to be bold.

By the end of 2022, Noble will relaunch our educational offerings to ranchers. We will build our outreach around the simple goal of helping you gain understanding and confidence in applying regenerative principles. This means providing knowledge, supporting you when you encounter the unforeseen or new, and using our dynamic research to answer critical producer-guided questions. All of which begins with the right mindset — for us and you.

Some of you are already on the journey. For others, you may be curious about this regenerative ranching journey and wonder if you should take your initial steps. Odds are you're already making strides to rehabbing degraded soil. But if you want to challenge your mindset, ask yourself these questions:

Are you ready to look at your ranch as one interconnected operation of soil, plant, water, land, animal and producer?

Are you ready to apply soil health principles instead of implementing one-size-fits-all practices?

Are you ready to build a profitable operation that sets and fulfills long-term goals?

We believe that everything you desire as a rancher — a profitable operation, healthy soil and land, and a legacy for your children and society — is on the other side of a renewed mindset. As my grandmother would say: Be bold, stand up and try, put yourself out there despite the judgment, and have courage.

This is your back-porch revelation.

WE WISH YOU A HAPPY

new year

As we enter the new year, we want to take a moment to express our appreciation for your meaningful support of Noble Research Institute. Together, we are on a journey to enrich the soil, the environment, and the lives of farmers and ranchers.

Our goal for this year is to continue to share information about innovations in regenerative ranching as we reshape how we think about land stewardship and its impact on the world around us. Partnerships — both current and future — are essential to equipping farmers and ranchers with the tools to ignite soil health and revitalize our lands for the benefit of all.

For more information about how you can support regenerative ranching, please visit: **www.noble.org/donate**

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