



EVERY ACRE MATTERS

Saving Our Soil
A Mission that Touches Us All



WE'RE GROWING SO MUCH MORE THAN GRASS

Soil is Essential to Life

Every pasture you drive by is a part of our grazing lands and houses the earth's most valuable natural resource — soil. Healthy soil cleans our air and water, contributes to food security, enhances wildlife habitats, and sequesters carbon to mitigate climate variability. In short, healthy soil is integral to the life of every person in our country.

Alarmingly, the great majority of the nation's grazing lands are degraded due to decades of unintentionally damaging land management focused solely on maximizing livestock production. For multiple generations, this management approach has taken its toll through forms of continuous grazing of livestock and a dependency on fertilizer and pesticides to manage soil and plant productivity. Consequently, these lands have become brittle, less productive, and less resilient to the influences on and around them. Further, poor financial returns, retiring generations, urban sprawl, and other factors are conspiring to remove ranching families from our grazing lands. When grazing lands are no longer intentionally managed, the ecological benefits of healthy soil and economic drivers to rural America are lost.

By prioritizing the restoration of soil health, we have the potential to reverse environmental damage and rejuvenate grazing lands, thereby revitalizing the interconnected web of life that includes people, animals, and the plants it sustains.



We're growing stronger communities, better food, and a more sustainable future for us all.

AN AMBITIOUS AND DISTINCTIVE MISSION

We Can Change the Course of Our Ecological Future

By equipping farmers and ranchers to manage their agricultural operations regeneratively, Noble Research Institute seeks to reinvigorate the soil across 164 million acres, or one quarter, of our nation's grazing lands by 2040. Along the way, we intend to help build resilience in the family farms and ranches integral to this vital effort.



Noble's goal by 2040:

86K

farmers and ranchers adopting regenerative principles

164M

acres transitioned across the U.S.

75%

of farmers and ranchers meeting their financial goals



A close-up photograph of a hand holding a dark, weathered metal shovel. The shovel is positioned vertically, with its blade partially buried in dark, rich soil. The soil is being dug up, forming a mound. To the left of the shovel, there are several blades of green grass. To the right and above the soil, there is a pile of dry, yellowish-brown straw or dried grass. The background is filled with more soil and some green grass blades. The overall scene suggests agricultural work or soil cultivation.

**“ NO CIVILIZATION
HAS OUTLIVED THE
USEFULNESS OF ITS
SOILS. WHEN THE SOIL
IS DESTROYED, THE
NATION IS GONE.”**

- Lloyd Noble, 1949

WHAT WE BELIEVE:

RANCHERS ARE THE KEY TO TRANSFORMING OUR GRAZING LANDS

Our Goal Is To Empower Them in Their Journey

We believe no one cares more about the land than those that steward it. Farmers and ranchers — who represent about 1% of the U.S. population — are key to the soil transformation that needs to occur across our grazing lands. Preservation and regeneration of the land is only possible when using grazing animals, and intentionally managing those grazing animals in conjunction with the soil, water and plants. This commitment to the land requires an underlying viable business and financial stability with long-term views. Through education and mentorship, Noble equips farmers and ranchers to manage their grazing land operations with the end game of reigniting the soil and establishing a long-term path for their family ranch to thrive. For classically trained farmers and ranchers, changes in either land management or ranch business operations often require new knowledge, skills, and confidences. Beyond that, a complete shift in mindset is required, as is the need to travel this new path with like-minded peers.



“Noble has really opened my eyes to what we can do on our ranch.”

*- Bart Simmons
2S Ranch, Texas*



BENEFITS OF SOIL HEALTH AFFECT US ALL

Regenerative Practices Improve Everything — from the Air We Breathe, to the Food We Eat

When prioritizing sustainable practices, we create an environment where local farmers and ranchers can share knowledge, collaborate, and support one another. But these practices reach far beyond the pasture in the following five categories.



IMPROVED AIR AND WATER QUALITY

Richer, more robust soil enhances air quality. Soil and vegetation serve as an exceptional carbon sink for absorbing air pollutants and their precursors. Moreover, soils nurture plant growth, a pivotal factor in regulating air quality. Through sustained use of regenerative management, farmers and ranchers significantly reduce the need for synthetic chemicals and pesticides but without compromising plant productivity and production. Productive, diverse plant life within our nation's pastures result in cleaner air for all. Additionally, the reduced tillage associated with these practices leads to lower carbon dioxide emissions, contributing to a healthier atmospheric composition. The byproducts of regenerative management—extensive root systems from healthy, diverse plant cover and soils rich in soil organic matter minimize water runoff and erosion. By doing so, farmers and ranchers protect local watersheds from sedimentation and pollution.



More diverse plant life results in cleaner air and water for us all.



FOOD SECURITY AND FOSTERING A STRONGER RURAL AMERICA

Regenerative ranching places a premium on sustainable land productivity and food production that creates long-lasting economic returns for land stewards. By nurturing healthy soils, diverse ecosystems and economic viability, we support long-term continuation of agricultural operations. As ecological cycles are restored and become active again, producers reduce input costs. By minimizing the need for synthetic fertilizers and pesticides, farmers and ranchers can reinvest into their operations. This improves their financial resilience and supports long-term viability of their enterprises.



**Regenerative ranching
fosters a sense of community
and connection to the land.**



HEALTHY PLANT PRODUCTION WITH POLLINATORS

Pollinators are integral to regenerative ranching as they foster biodiversity, provide forage and habitat for livestock, contribute to soil health, support seed production of native plants, enhance crop and forage yields, and fortify the overall resilience of the ecosystem. By facilitating the reproduction of a wide variety of plants and promoting the health of soils, pollinators play a pivotal role in sustainable land management, benefiting both the ranch's ecological well-being and its economic viability. In fact, according to the United States Department of Agriculture, 75% of the world's flowering plants and about 35% of the world's food crops depend on animal pollinators to reproduce. Implementing practices that protect and encourage pollinator populations is a key aspect of regenerative ranching, ensuring long-term productivity and environmental stewardship.



75 percent of flowering plants depend solely on pollinators to reproduce.



PRESERVATION AND BIODIVERSITY OF WILDLIFE

Regenerative grazing practices, modeled after the historical grazing patterns of bison, allow pastures to rest and recover, which leads to the emergence of a greater variety of grassland vegetation. This biodiverse vegetation plays a pivotal role in water retention capacity and creates a thriving ecosystem for wildlife, including insects and animals.



Regenerative practices lead to a resurgence in biodiversity.

SEQUESTRATION AND STORAGE OF ATMOSPHERIC CARBON

Effective land management can profoundly impact the health of our planet. Regenerative practices facilitate healthier soils which absorb and retain atmospheric carbon. This involves harnessing solar energy through photosynthesis, using grazable forages to capture carbon, and leveraging animals to stimulate carbon transfer below ground. Reducing reliance on synthetic inputs and removing harmful practices enables the system to capture and store carbon effectively, transforming farms and ranches into significant carbon sinks. Strategic use of cover crops and perennial vegetation protects soil, drawing in and storing carbon, enhancing soil health and the atmosphere.



**Locking carbon deep below
the soil benefits us all.**



LEADING THE CHARGE FROM THE GROUND UP



Rancher Education

Through a first-of-its-kind, producer-centric educational and training portfolio, Noble engages and equips farmers and ranchers by providing educational and training curriculum that has been designed with consistent principles and practical application. The educational journey is as unique as each rancher's operation. From online programs to in-person workshops, group learning to individualized guidance, Noble meets ranchers where they stand on their regenerative path. It's a journey that's guided by those who know it best — ranchers themselves. To encourage long-term implementation, Noble is building peer-to-peer networking, personal mentorship, and practical tools.



Land-Based Research

In Noble's commitment to maintaining a dynamic and pioneering curriculum, our initiatives are rooted in rigorous scientific research and inquiry. Utilizing a robust methodology, we gather, analyze, and interpret data, ensuring that our interventions are evidence-based and scientifically sound. Noble's research groups is dedicated to providing fresh insights into soil health. This research spans diverse environments, from pecan orchards to native rangeland, informing comprehensive management practices that consider soil, plants, animals, water, economics, and people. Our team conducts practical, land-based research to measure, study, and assess ecosystem responses to land management to empower ranchers with data-driven decision-making.



Production Ranches

Noble Ranches comprise seven Oklahoma operating ranches, totaling 13,500 acres. Noble operates and manages these ranches regeneratively. The ranches produce cattle, goats, and sheep and, on some, native and introduced pecans. In addition to serving as working ranches, these ranches demonstrate regenerative management for visiting farmers and ranchers, and serve as living laboratories for measurement, research, and study.



Policy

Noble will launch a policy team in 2024 to advance legal and policy reforms that respect private property rights and use market-based solutions to expand incentives for voluntary stewardship and empower people to advance conservation and regeneration of U.S. grazing lands. Ultimately, Noble seeks to benefit soil health (and related ecological outcomes) in U.S. grazing lands and advance grazing animal operations and markets for the benefit of U.S. producers and consumers.

WHAT IMPACT CAN AN ACRE MAKE?

CAPTURE AND CLEAN OUR WATER

20K
GALLONS OF WATER

With just a 1% increase in soil organic matter, an acre can store up to 20,000 extra gallons of water.

FOOD SECURITY AND A STRONGER RURAL AMERICA

75%
INCREASE IN CROP YIELDS

Adopting soil health practices can increase crop yields by up to 75%.*

ENHANCED HABITAT FOR WILDLIFE

27K
POUNDS OF SOIL LIFE

One healthy acre supports up to 27,000 lbs of life below the soil — there is no above ground life without it.*

CARBON SEQUESTRATION

1.5
TONS OF CARBON

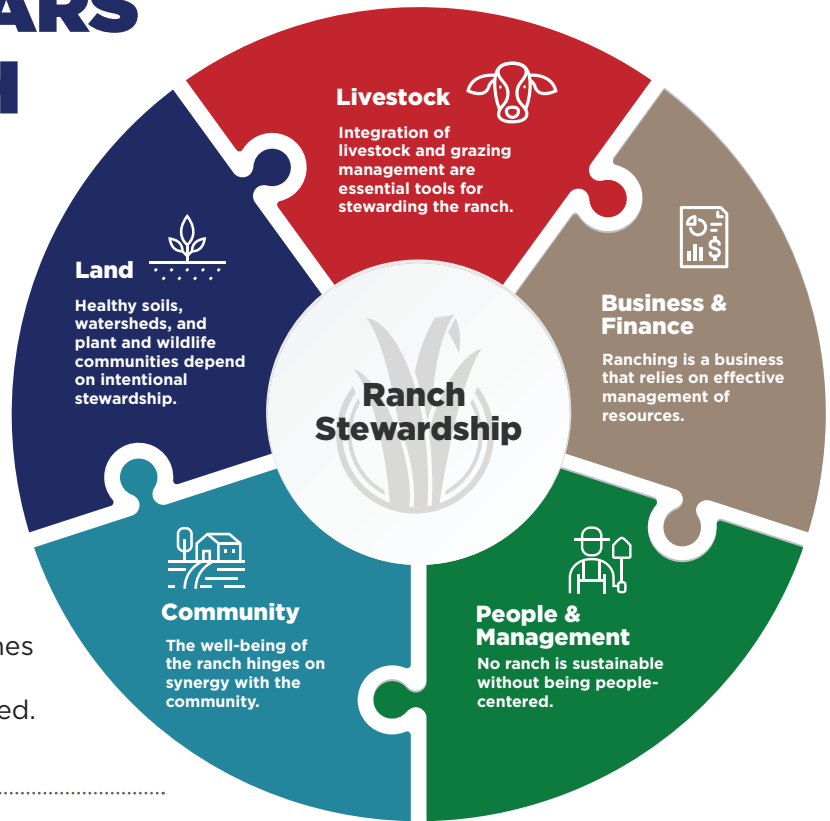
One acre of regenerated land can sequester up to 1.5 tons of carbon per year.*

**Sources: USDA, Agriculture.com, University of Illinois, Soil Science Society of America*



FIVE PILLARS OF RANCH SUCCESS

Noble’s rancher education program is based on our land stewardship philosophy which recognizes that all the pillars of an agricultural operation — land, livestock, business and finance, people and management, and community — are intricately tied together and must be addressed collectively for working ranches to be successful and our environment to be transformed.



SOIL HEALTH IS OUR FOUNDATION

Harnessing the Power of Nature

Noble’s approach to grazing management education is rooted in a comprehensive approach to land stewardship, harnessing the natural processes of photosynthesis and grassland biology, and the symbiotic relationship with grazing animals. The primary goal is to rejuvenate and safeguard ecological systems, while bolstering soil vitality through the pivotal role of grazing animals. Farmers and ranchers employ grazing animals, strategic timing, and “rest” periods for pastures to enhance soil

organic matter. Concurrently, they nurture biodiversity in both flora and fauna, above and below the ground, enhancing water retention and carbon sequestration in deeper soil layers. This conscious endeavor to enhance soil structure represents a significant shift away from decades of soil degradation. The heightened plant diversity above ground creates thriving habitats for beneficial insects, birds, bats, and larger wildlife.

Fostering Biodiversity

By embracing these soil health principles, farmers and ranchers veer away from the conventional reliance on chemical inputs, fertilizers, and intensive tillage for land management. This approach champions the development of soil organic matter, fertility, and overall health, boosting water infiltration, retention, and the quality of runoff water. It also fosters biodiversity, revitalizes ecosystems, builds resilience, and promotes dynamic interactions between animals and plants. This transformative approach helps

counteract the carbon emissions associated with food production by actively sequestering carbon.

Changing Mindset

This management system deviates from the traditional practices taught since the 1950s, demanding deliberate planning that encompasses various aspects, including desired outcomes for the land, livestock, wildlife, business, and the family’s quality of life. Its impact extends beyond individual farms and ranches, aiming to rejuvenate and preserve the ecological richness of the nation’s grazing lands and positively influence the surrounding environment.

Six Soil Health Principles



KNOW YOUR CONTEXT.

Apply the remaining five principles in accordance with your operation, climate, geography, resources, skills and goals. One size doesn’t fit all.



MINIMIZE SOIL DISTURBANCES.

Tilling, fire, grazing and fertilizer interrupt the biological activity and/or structure of the soil. Use these tools only as needed to allow the life in the soil to function as intended.



COVER THE SOIL.

Avoid bare ground. Cover crops, managed grazing and trampled residues manage the sun’s access to the soil, help retain moisture and prevent erosion.



INCREASE DIVERSITY.

The soil benefits from differing interactions of plants and animals. Increases in plant diversity increase pollinators, wildlife and the opportunity for soil health.



MAINTAIN CONTINUOUS LIVING ROOTS.

Living roots all year round keep the soil biology processes working.



INTEGRATE LIVESTOCK.

Livestock manage landscapes, facilitate nutrient cycling and enable conservation through management.



Noble's consultation program was formed in 1958 to assist local farmers and ranchers in applying research-based information to their operations.



NOBLE AS A GUIDE

Since its founding in 1945, Noble Research Institute has guided farmers and ranchers as they steward our nation's grazing lands and provide food and fiber for families — their own and those beyond the farm gate.

Noble acknowledges those closest to the land — farmers, ranchers, and all land stewards — are its greatest guardians and hold the ability to grow food in a way that nourishes both people and the environment.

Every project, program, and action Noble takes are designed

to build and sharpen a rancher's knowledge, understanding and confidence in applying regenerative principles. We are there when they need help or when they encounter something new. Our research answers critical producer-guided questions regarding soil management, grazing, economics, and business operations.

Our educational and mentorship programs are rooted in equipping farmers and ranchers to effectively manage their operations using these regenerative principles.

TOGETHER, WE CAN REVIVE OUR NATION'S GRAZING LANDS

Today, we stand poised at the forefront of a regenerative revolution in U.S grazing lands. Together, we can revive our nations' grazing lands, breathing new life into the soil that sustains us all.

Your generosity fuels our mission to empower farmers and ranchers, guiding them towards regenerative practices that revitalize our grazing lands. Each step we take is a testament to the profound impact of your support, as we work hand in hand to shape a future where agriculture thrives in harmony with nature.

Together, we can embark on a journey of transformation, one acre at a time, knowing that the impact of our efforts extends far beyond the fence line.



EVERY ACRE MATTERS.



JOIN THE REGENERATIVE JOURNEY

Noble Research Institute is the nation's largest independent 501(c)(3), agricultural research organization serving as a trusted guide in land stewardship through education and mentorship of ranchers and farmers since 1945. We conduct practical research and actively manage 13,500 acres of working ranch lands, applying the principles of regenerative soil health.

Noble's bold commitment to regenerating 164 million acres of U.S. grazing lands by 2040 will revitalize our air, wildlife, and ecosystem and bolster our nation's food security.

JOIN US ON THE REGENERATIVE JOURNEY!

DONATE ONLINE AT [NOBLE.ORG/GIVING](https://noble.org/giving)

