

A PUBLICATION OF THE SAMUEL ROBERTS NOBLE FOUNDATION

LEGACY

WINTER 2015



A Man of Character

Compelled by his love for the land,
Lloyd Noble left an agricultural resource
to endure throughout generations.



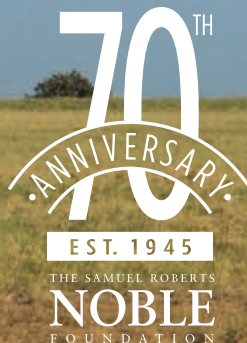
SPECIAL 70TH ANNIVERSARY EDITION - THEN. NOW. NEXT. - P. 14

Leave your mark on *Legacy*.

For almost a decade, *Legacy* has introduced the projects and detailed the people who propel the Noble Foundation's mission to advance agriculture. Their stories and the impact of their work have filled more than 20 issues of *Legacy*.

As we celebrate our 70th anniversary we want to hear from our readers. Tell us what you think about *Legacy*. What information most interests you? Is there a story you particularly enjoyed? Do you have a story about the Noble Foundation to share?

Give us your feedback at feedback@noble.org, or connect with us on our social media channels.



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The Noble Legacy



To our readers,

One truth underscores every action for those who work in the agriculture sector: there will always be more challenges.

Breed a line of wheat resistant to a specific pathogen, and a new rust emerges overseas. Rain finally falls in the Midwest, but California experiences historic drought. Defend the sector against unnecessary overregulation, and another fringe group emerges looking to control what they do not understand or respect.

There will always be challenges lurking on the horizon of agriculture, and the solutions we seek will always require patience and tenacity beyond what we previously thought possible.

Our founder, Lloyd Noble, knew that each generation would encounter challenges unimagined by its forefathers. So he created the Noble Foundation with a blueprint for how to overcome any obstacle: Attack problems with determination. Embrace innovation as the engine for change. But always let compassion for mankind be your motivation.

Noble believed that if our focus remained on helping others then our determination would be endless, and our sheer resolve would ultimately yield solutions. He once said, "that the only true happiness must come from not only understanding your own needs, but an understanding and willingness to secure the same things for your fellow man."

As we launch our 70th anniversary, we honor Noble's grand vision for establishing an organization dedicated to the vitality of agriculture. We also seek to recognize the accomplishments of generations of employees who form a living legacy through their shared pursuit of this vision.

But we must also pay tribute to the fundamental belief that serves as the foundation for these seven decades of progress. When people think of the Noble Foundation, I hope that they see the remarkable programs. I hope they marvel at our employees' innovation and skill, and their work to discover answers to agriculture's most pressing questions.

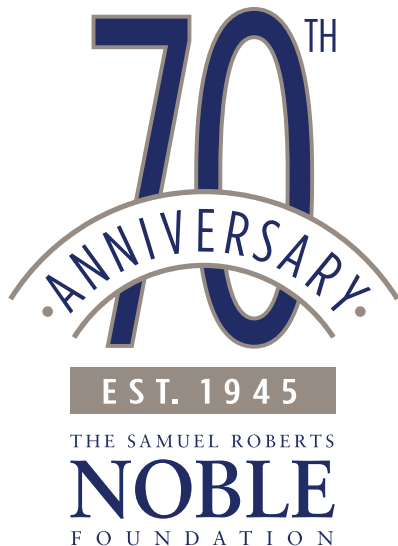
More so, I hope they see the intent behind it. Everything we do – every action, every experiment, every program – is aimed at helping our fellow man. The solutions will come, as will more challenges, but it is the spirit of this organization that will endure forever.

That is the Noble legacy.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Buckner".

Bill Buckner, President and Chief Executive Officer



Let the Celebration Begin

70th anniversary commemorates Noble Foundation's contribution to agriculture, launches next era in the organization

by J. Adam Calaway



Jessie Nance (left) and Ginger DuBose, great-granddaughters of Lloyd Noble, cut the Noble Foundation 70th anniversary cake.

Every aspect of the Noble Foundation's 70th anniversary kickoff party went as planned. Every aspect except the sparklers.

On Friday, Sept. 18, one day before the Noble Foundation's official anniversary date, more than 325 employees and trustees gathered in the Forage Improvement Division Atrium to launch a year-long celebration.

As the massive birthday cake – frosted white and inlaid with historic photos – was rolled into the atrium to rowdy applause, the sparklers adorning its multiple levels fizzled and went out.

While some good-natured laughter rolled through the crowd, President Bill Buckner took to the stage and smiled as he said, "Sometimes things don't work the way we planned, but that's OK. Here at the Noble Foundation, we make the best of every situation."

Buckner went on to thank the employees for their dedication and diligence before recounting many of the organization's landmark accomplishments. Then he raised his glass for a toast saying, "May the work of our hands be blessed, and, in turn, may we bless the world with the work of our hands."

Jessie Nance and Ginger DuBose, Lloyd Noble's great-granddaughters and board of trustee members, came forward to cut the cake together, officially launching the celebration.

Six weeks later, the Noble Foundation's *Profiles and Perspectives Community Enrichment Series* hosted a special agricultural speaker as part of the anniversary. Chris Koch was born missing both arms and legs, but he has not let that stop him from farming in southern Alberta, Canada.

"As part of the anniversary, we wanted to include a presentation by a producer who embodies the spirit of agriculture," said Mary Kate Wilson, ►



Noble Foundation employees gathered to celebrate being part of a 70-year-long legacy of benefiting mankind.



Barbara Nova Franco, Ph.D., joins co-workers in learning about the Noble Foundation's upcoming celebratory year.

Noble Foundation director of philanthropy, engagement and project management, and chair of the Profiles and Perspectives Committee. “Koch, who encourages people to live their lives to their greatest potential, is the perfect example. His presentation was something special.”

Throughout the remainder of the anniversary year, the Noble Foundation will release a series of special stories and videos that highlight the organization's seven decades of contributions to agriculture, research, education and philanthropy. The organization will also host a social media campaign featuring the blue cow. (See next page for complete details.)

To wrap up the 70th year, the Noble Foundation will host a reception and art show focused on celebrating farm life and the land during summer 2016 at the Goddard Center in Ardmore, Oklahoma. Details and instructions on how to enter will be released in January 2016.

“We will proudly celebrate the many people and accomplishments of the Noble Foundation throughout the next 12 months,” Buckner said. “But our view is always on tomorrow. We will use this year to also highlight where the Noble Foundation is going. We will continue Mr. Noble's charge to benefit agriculture and strengthen communities long into the future, using both proven practices as well as new approaches, discoveries and innovations. Our quest never ends.” ■

Head'em Up, Move'em Out

The blue cow herd begins march around the country and world

by J. Adam Calaway



Elison Blancaflor stood on a pier across the bay from the Sydney Opera House, marveling at the white peaks of an iconic rooftop against the cloudless afternoon sky.

Blancaflor, Ph.D., a Noble Foundation principal investigator, visited Australia in October for a conference that provided him a few sightseeing opportunities. As he took in the grandeur of the moment, Blancaflor's mind jogged back to another reason he had wandered down to the water's edge. He turned, fished around in his bag for a moment and retrieved his blue cow. He placed the blue cow on a dock, careful to keep the opera house in the background, and snapped a photo.

He smiled. It was official: the blue cow had come to Australia.

"When I heard about the blue cow idea, I thought it was cute and fun," Blancaflor said. "Then you start seeing photos of the blue cow in all these different places, and you realize – the Noble Foundation truly reaches around the world."

The blue cow campaign was launched as part of the 70th anniversary celebration. The social media campaign, which includes about 1,000 blue cow figurines (the cow symbolizes agriculture, and the blue color is part of the Noble Foundation brand), is designed to demonstrate the reach of the Noble Foundation, as well as the lives touched through the organization's activities.

Each month during the 70th anniversary year, more than 400 blue cows will be mailed to friends of the Noble Foundation, who will post photos of their blue cow and tell their personal story of how the Noble Foundation has impacted them.

Additionally, each of the Noble Foundation's 340 employees received a blue cow to take with them as they travel. To date, employees have already carried the blue cow to conferences, speaking engagements and vacations at locales including Niagara Falls, Disney World, Jamaica and beyond.

Beyond the mail-out and the employees, the Noble Foundation is opening up the blue cow campaign so that anybody can participate. The first 300 people who like or follow one of the organization's social media networks will receive a blue cow.

Participants must find a network they have not already followed, like or follow that network, then post a message with @noblefoundation and the hashtag #bluecow and the phrase, "I want a blue cow!"

The Noble Foundation's social media networks include Facebook, Twitter and Instagram.

"The blue cow is a fun way to celebrate the Noble Foundation and the people we interact with around the country and world," said Adam Calaway, director of communications. "By the end of the year, we're going to be truly astonished at the scope and distance traveled by the blue cow herd."

Where has your



Niagara Falls



Jefferson Memorial - Washington, D.C.



Milwaukee, Wisconsin



Canadian Thanksgiving



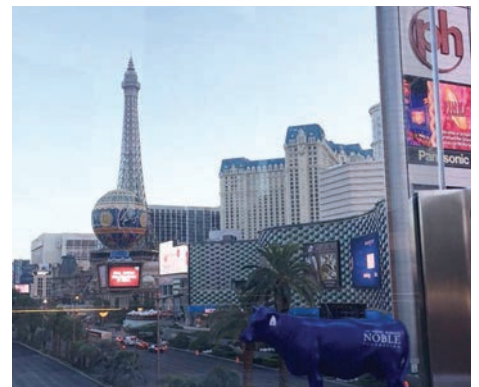
National FFA Convention & Expo



Ford Field - Detroit, Michigan



Mireya Mayor, Ph.D., *Profiles and Perspectives* Guest Speaker



Las Vegas, Nevada

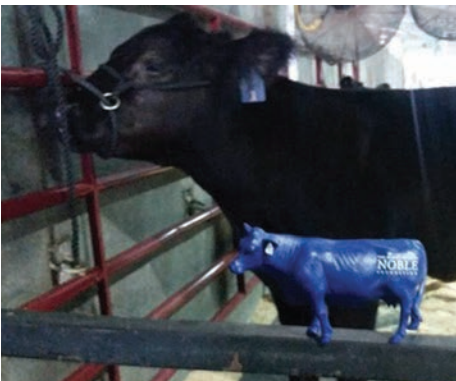
blue cow been?



Cozumel, Mexico



Gulf Shores, Alabama



Oklahoma State Fair



Diving in Jamaica



On Capitol Hill with
Senator James Lankford



Chicago, Illinois



Cayman Island Turtle Farm



Indiana



Sydney Opera House

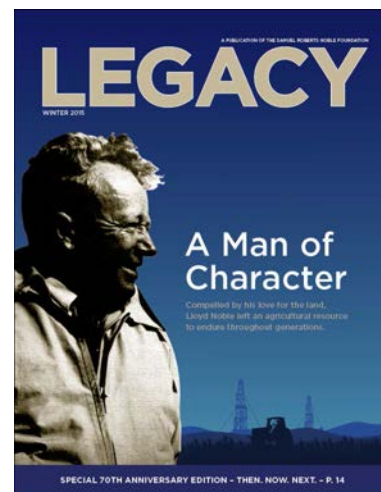


Chandler, Arizona



The Alamo - San Antonio, Texas

Visit facebook.com/bluecow to see where the blue cow lands next, and read the messages from Noble Foundation friends.



ON THE COVER:

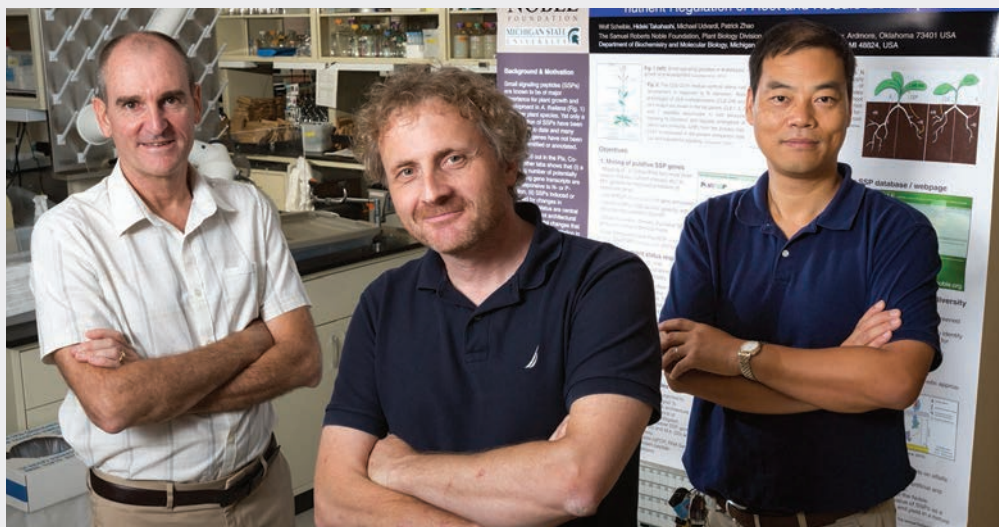
The *Legacy* magazine will publish three special issues during the course of the Noble Foundation's 70th anniversary year.

Following a "then-now-next" theme, these three issues will celebrate different periods in the organization's timeline, including its rich heritage (then), the current activities (now) and the upcoming era of the Noble Foundation (next). Each issue will have a specially designed cover that illustrates the specific time frame.

This issue of *Legacy* (Winter 2015) focuses on "then" – the past. Inside, there are stories of the men and women who helped form and grow the Noble Foundation, as well as a timeline detailing 70 years of milestones.

On the cover and as part of the cover story, *Legacy* pays homage to founder Lloyd Noble, an oilman and philanthropist, who dedicated his life to benefiting mankind and supporting agriculture.

Noble Spotlight



RESEARCH FOCUSES ON MOLECULES AFFECTING PLANT DEVELOPMENT

Researchers at the Noble Foundation and Michigan State University (MSU) received a four-year, \$3 million grant from the National Science Foundation (NSF).

The grant will enable Wolf Scheible, Ph.D., principal investigator, and co-principal investigators, Michael Udvardi, Ph.D., and Patrick X. Zhao, Ph.D., (all with the Noble Foundation) and Hideki Takahashi, Ph.D., (MSU) to identify and study targeted molecules called small signaling peptides (SSPs) in a model legume species, *Medicago*

truncatula, as well as alfalfa, a commercially significant crop.

Researchers will use the grant to study how these understudied molecules affect plant development, especially root growth and nodulation. Noble Foundation researchers further suspect that SSPs, which are encoded by many often poorly marked genes, may also control plant metabolism, plant-microbe interactions and nutrient stress tolerance. This grant will also enable exploration of these SSP functions.



STATE GRANT SEEKS WAYS TO ENHANCE PLANT ROOT GROWTH

Noble Foundation Professor Elisa Blancaflor, Ph.D., received a two-year, \$100,000 grant from the Oklahoma Center for the Advancement of Science and Technology (OCAST).

The goal of this grant is to discover new, small, synthetic chemicals that modify root system architecture in model and crop plants. It is possible that some of these molecules could be used as new tools for basic root research or as new growth regulators for agriculturally important crops.

INSIDE THIS ISSUE

LOCATE THE BLUE COW. WIN A PRIZE.

Hidden within each issue of *Legacy* magazine will be a blue cow. Find the blue cow and send us a message on social media with #ifoundthebluecow. The first five people will win a prize.

SOCIAL MEDIA



www.noble.org



twitter.com/noblefoundation



facebook.com/noblefoundation



linkedin.com/company/noble-foundation



youtube.com/thenoblefoundation



pinterest.com/noblefoundation



instagram.com/noblefoundation

LEGACY

Winter 2015 | Vol. 9, Issue 2

What past
Legacy story
has been your
favorite?



Bill Buckner
PRESIDENT/CEO → **This Whole
Issue
Winter 2015**

← **On the Wings
of Grace
Spring 2008** J. Adam Calaway
EDITOR/WRITER

Katie Westman → **The Future
of Art
Fall 2013**
GRAPHIC DESIGNER

← **Deep Roots
Winter 2015** Rob Mattson
PHOTOGRAPHER

→ **The Fruits
of Their
Labor
Spring 2015**
Courtney Leeper
COPY EDITOR/WRITER

← **A Cowboy Way
Summer 2011** Robyn Peterson
WRITER

→ **Boldly Going
Fall 2010** Shane Porter
WEB

Legacy is published by the Department of Communications at The Samuel Roberts Noble Foundation. Headquartered in Ardmore, Oklahoma, the Noble Foundation is an independent, nonprofit institute conducting plant science research and programs to enhance agricultural productivity. Legacy offers insight into the outstanding scientists and agricultural consultants who pursue the vision of founder Lloyd Noble.

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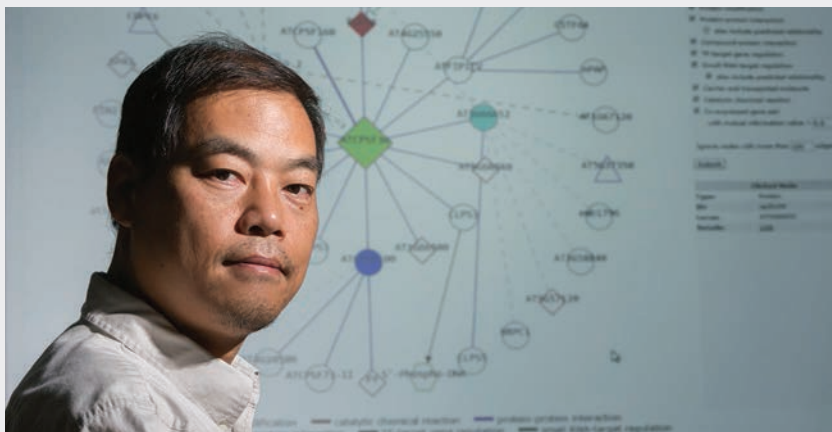
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WANG EARNS IN VITRO AWARD

Professor Zengyu Wang, Ph.D., senior vice president and division director, received the 2015 Society for In Vitro Biology (SIVB) Distinguished Scientist Award during the society's Plant Biotechnology Section meeting this summer.

Wang is the inaugural recipient of the award. He was selected for this award for his contributions to original basic and applied research in the area of in vitro biology, his achievements in the in vitro sciences, and his dedication and involvement within the society.



GRANT FUELS GENE RESEARCH

Researchers at the Noble Foundation, Michigan Technological University (MTU) and University of California, Riverside (UCR), received a three-year, \$1.45 million grant from the National Science Foundation (NSF).

This grant will enable the Noble Foundation's Patrick X. Zhao, Ph.D., principal investigator, and co-principal investigators, Hairong Wei, Ph.D., (MTU) and Shizhong Xu, Ph.D., (UCR) to develop the formulas and models needed to study how genes or groups of genes are connected to and control the characteristic traits of plants. This would turn gene data into valuable information for plant breeders to use when breeding improved varieties.

Once researchers can understand how phenotypes are controlled, that knowledge can be applied to develop more effective plant breeding programs to increase productivity and target economically important traits in agricultural crops.

What is your best memory of the Noble Foundation?

My best memory is being a part of the Noble Foundation's Biomedical Division from start to finish. I worked with amazing individuals on life-changing work, and I was able to see the impacts we made on cancer research. It is all one great memory.

Boyd Howell, retired at 42 years of service with the Biomedical Division

I remember meeting a young man who was diagnosed with acute lymphocytic leukemia. He was being treated with a drug we developed, L-asparaginase. It was satisfying to know that our research efforts truly meant something to others.

Manford 'Bud' Patterson, Ph.D., retired at 42 years of service as the Biomedical Division director

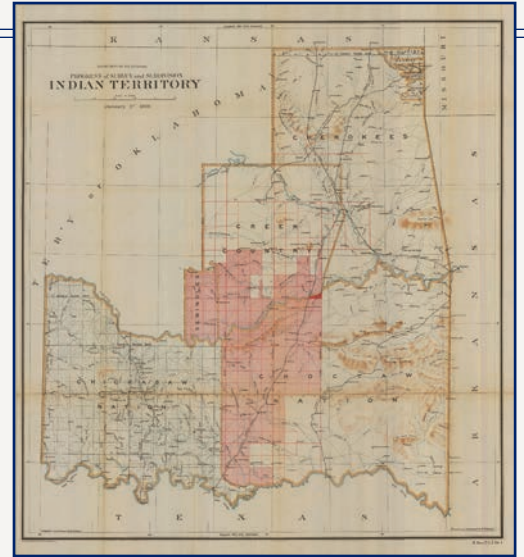
My best memory is the day I was hired. I remember thinking that there were all these great opportunities possible for employees at the Noble Foundation. I was right. I started as a soil fertility specialist and retired as the Agricultural Division director.

Wadell Altom, retired at 43 years of service with the Agricultural Division



Lloyd Noble

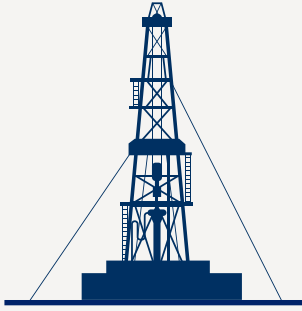
180,182 people lived in all of Indian Territory (the eastern half of present-day Oklahoma) during the decade Lloyd Noble was born.



3rd grade, politically conscious Noble wore a campaign button supporting Teddy Roosevelt during the 1904 election.



5,050 sq. feet of space occupied by Noble Brothers Hardware, where Noble grew up stocking shelves and delivering goods for his father, Samuel, and uncle, Ed.



\$181,555, the value of the **\$15,000** note cosigned by Noble's mother, Hattie, when adjusted for inflation. The note allowed Hattie's 24-year-old son to purchase his first drilling rig.

33

drilling and production companies established by Noble during his life.

3 children
Sam, Ed and Ann –

born to Noble and his wife, Vivian. In later generations, the three children served as board of trustee members for their father's private foundation.

\$1 million

in stock from Noble corporations used by Noble to establish the Noble Foundation in 1945.

17-year-old Noble dropped out of his junior year of high school and lived on a family ranch alone for several months before returning to education.



10 months

(approximately) served by Noble in the U.S. Navy before World War I ended. Despite being the sole male heir of his family, for which he could have received deferment, Noble wanted to serve his country.

53 years old
when Noble died on Valentine's Day 1950 of a heart attack.



A Man of Character

Compelled by his love of the land and his desire to support his fellow man, Lloyd Noble created a lasting solution to agriculture's most pressing challenges. Seven decades later, the Noble Foundation continues to fulfill the vision of its founder.

by J. Adam Calaway

Two interlocking stories form the beliefs and motivations of Lloyd Noble – one of a man who defined the world around him, the other of the place that defined the man.

Together, these motivations propelled Noble to create an organization able to solve agriculture's most pressing challenges for generations to come.

And all of it began in a train-depot town called Ardmore in Indian Territory.

Born in 1896, Noble grew up in a region still relatively untamed. Noble's father and uncle, Samuel and Edward, followed their pioneering spirits and entrepreneurial inclinations from New York to the land-rich prairie in search of new opportunities.

The Noble brothers opened a hardware store the same year Lloyd was born, providing wares to the agricultural producers who were the area's primary economic engines. As a young boy in the 1910s, Lloyd Noble swept floors, stocked shelves and delivered goods for the store, where he came in frequent contact with agricultural producers.

Noble admired the diligence and humility that farmers and ranchers displayed. He also saw how these early

farmers succeeded in generating their prized commodity – cotton – but did so with little regard for the conservation and vitality of the soil.

Noble left his junior year of high school and spent a year living alone on a family farm, working the land. "From family accounts and biographical writings, we know Mr. Noble was a quiet and thoughtful boy, mature beyond his years and able to grasp complex issues quickly," said Bill Buckner, president and CEO of the Noble Foundation. "These early experiences with agriculture undoubtedly shaped his perspective and began the formation of his allegiance to the soil and the land."

Noble left the farm and became an educator, earning a teaching certificate from Oklahoma State Teachers College, Southeast, (now called Southeastern Oklahoma State University) in Durant. He briefly served in a pair of one-room schoolhouses before enrolling in the University of Oklahoma, but Noble's sense of duty interrupted his education. World War I raged overseas and, eager to serve his country, he enlisted in the U.S. Navy. Peace was restored before the conclusion of his training, and Noble returned to the red clay soil of Oklahoma and the OU campus in 1919

but only for a few months.

Six years earlier, oil had been discovered at the Healdton Field in Healdton, Oklahoma, and revitalized Oklahoma's economy. Noble found the oilfield an irresistible opportunity, and, in 1921, the 24-year-old – armed with a \$15,000 loan cosigned by his mother, Hattie – purchased his first drilling rig.

Noble helped revolutionize the oil and gas drilling industry through the next two decades, becoming a leader in the adoption of innovative technology. He capitalized on new ideas and equipment to drill deeper and faster than his contemporaries and quickly became one of the most successful and respected drilling contractors in the United States.

While Noble found continued opportunity in energy production, the poor agricultural practices he had observed as a youth began to take a toll on Oklahoma. Failure to return nutrients to the soil resulted in a barren land that was unproductive and susceptible to erosion. A decades-long drought compounded the problem.

The winds that swept through the Great Plains in the 1930s carried off precious topsoil – literally blowing away ►



The first oil drilling rig owned by Lloyd Noble in 1921. From this beginning, Noble became one of the most respected oilman in the U.S.

Oklahoma's economic lifeblood. Agriculture and other industries were stifled, and those whose livelihood depended on the land fled for an elusive financial sanctuary in the American West. Oklahoma was in dire need of solutions, and Noble provided them.

"Noble believed that Oklahoma and his country had afforded him the opportunities to find success," Buckner said. "He felt it was his responsibility to support his fellow man and his home state. He demonstrated time and again that he was a remarkable man of character and compassion."

Noble had established himself as a respected oilman, but he knew that the revitalization of agriculture was the linchpin to Oklahoma's future prosperity. "We believe that while at times we have felt the overshadowing presence of oil," Noble said, "we are living in an area that is essentially agricultural. ... The land must continue to provide for our food, clothing and shelter long after the oil is gone."

Armed with his convictions, Noble focused his energy and resources on bolstering land management and soil conservation. In May 1943, Noble addressed these issues when he contributed a column to the 50th anniversary edition of his hometown newspaper, the *Daily Ardmoreite*. He wrote: "What are we in the present generation going to do with this heritage? Are we going to encourage the terracing, conservation and up-building of our soil so it will support a growing, healthy and prosperous livestock and agrarian industry, or are we going to allow our soils to be depleted and our population shifted to other areas as we read about it in the newspapers?"


Noble provided a permanent resource for the agricultural community and helped spark an agricultural renaissance when he established The Samuel Roberts Noble Foundation on Sept. 19, 1945. He named the organization after his father, citing him as the most charitable man he had ever met. Noble charged his new institution

with "benefiting mankind by assisting agricultural producers" and "safeguarding the soil for future generations."

The Noble Foundation's early efforts focused on educating and encouraging area farmers and ranchers to practice land stewardship and resource conservation. Noble knew that proper soil management would help prevent another Dust Bowl and ultimately secure the land for future generations.

One original service of the organization was soil testing for farmers in two southern Oklahoma counties. Soil testing was underutilized at the time. The practice became a fundamental component of successful land stewardship and continues, on a much broader scale, to this day. Initial programs also included contests for the improvement of cropland as well as the establishment of productive pastures and demonstration farms to illustrate innovative practices.

Noble suffered a fatal heart attack on Feb. 14, 1950 - Valentine's Day. He was 53.



While Lloyd Noble found his success in the oil industry, he saw the land and soil as our most prized resource. Noble once said, "We believe that while at times we have felt the overshadowing presence of oil, we are living in an area that is essentially agricultural. ... The land must continue to provide for our food, clothing and shelter long after the oil is gone."



42 Years and Counting

Bill Kendall joined the Noble Foundation in 1973. He's been here ever since.

by Courtney Leeper

Bill Kendall walks across the roof of the Noble Foundation Plant Biology Building. Three stories up, his stride is as steady as it is on the ground. White material covers the roof's floor, but the Oklahoma sun still washes bright heat over anyone working here. Even when their task relates to refrigeration.

Though the rooftop presents a maze, Kendall knows exactly where he's going – to a system that cools a growth room in the building below. Its job is to keep the room at 22 degrees Celsius, then drop to 20 degrees at night. It had been dropping 2 degrees too many, which prompted Kendall to set to work the day before. Now, gauges in hand, he's back to check on it.

Kendall, the Noble Foundation's mechanical specialist for HVAC services, has been walking rooftops at the Noble Foundation for more than four decades. "I'm usually on top of a building or underneath a building working," he said. His sandy blond mustache turns up when he grins, which is often. Though quiet, Kendall's lighthearted humor shines on those who know him.

Kendall has been serving the Noble Foundation with his maintenance skills for 42 years, longer than anyone else on campus. The longest-tenured employee in Noble Foundation history is Wadell Altom, former Agricultural Division director, who retired in 2009 with 43 years of service.

On Jan. 24, 2016, Kendall will match that milestone, and he isn't planning to retire anytime soon. He has seen more than half of the Noble Foundation's history play out before his eyes, and he has been involved in the majority of the organization's physical campus expansions.

GETTING THE JOB

In January 1973, Kendall went to work for the Noble Foundation at the age of 19.

Although he's worked there ever since, the job is actually about the ninth he's had. He's worked for a shingle manufacturing plant, on a construction crew, with a veterinarian, at Kentucky Fried Chicken and in a Cadillac dealership's garage. When he was younger, he also helped out on his uncle's farm, mowed lawns and ran a paper route.

"So I've cooked chicken, hung sheet-rock, worked on cows and made shingles," he chuckled. "It seems like I've been working someplace since I was old enough to walk. The Noble Foundation has been a good place to work. I found my contentment here."

The first winter he worked at the shingle manufacturing plant, he and several other workers were laid off. He had heard about an opening in the Noble Foundation's lawns department. He applied and got an interview, but he didn't get the job. A couple of weeks later, he got a call back. The Noble Foundation had another position, this one in the maintenance department, and they thought he was the right fit.

In 1973, the maintenance department consisted of three people. Kendall joined as their assistant. He started his workday in the early afternoon and helped with whatever was needed. Then, in the evenings, when everyone else went home, he stayed and cleaned up to prepare for the next day.

Jack Jewell was Kendall's supervisor, and he was responsible for all of the air conditioning and refrigeration work. When Jewell went to work on a project, he asked Kendall to come along. Often, Kendall was just a second set of hands. He would carry

the tools and supplies. But during those trips, Kendall's interest in HVAC systems sparked.

He learned on the job from Jewell, and he started taking a few night classes in Ardmore and around the state. He learned to work on refrigerators and heat pumps, air conditioners and ventilation systems. "I've always liked working with tools," Kendall said. "And here I am, still working with tools."

By the 1980s, the Noble Foundation was expanding. In 1988, the Plant Biology Division was formed. In 1997, the Forage Biotechnology Group, which was renamed the Forage Improvement Division in 2004, joined the Agricultural and Plant Biology divisions.

All of a sudden, dozens of growth chambers were showing up on campus for plant research, Kendall recalled. Someone had to learn how to maintain them, so Kendall traveled to Canada for a special 10-day class.

"I rely on Bill because he's been here when probably 90 percent of our campus was built," said Charlie Canny, director of facilities. "He has been such a part of its growth. He's part of the fabric of the Noble Foundation. And he is consistently willing to do anything for anyone."

A REASON TO STAY

Jeff Edwards, HVAC supervisor, can remember plenty of times Kendall helped him out.

The first was before Edwards was hired. The two had worked together when Edwards was a temporary employee, and Kendall helped hire him on full time a year and a half later, in 1995. "He really went to bat for me," Edwards said. ►



Bill Kendall checks on a refrigeration system that cools a growth room in the Plant Biology Building.



Bill Kendall has served the Noble Foundation's maintenance needs for 42 years.

Once, Edwards had a water well pump go out. Lodged at 300 feet below ground, it wouldn't budge. Kendall not only helped Edwards hoist the pump up out of the ground; he stuck around to help work on it. "He doesn't wait to be asked if he can help you out," Edwards said. "And if you ask how you can repay the favor, he just says 'Oh, don't worry about it.'"

The two have worked side-by-side nearly every day since Edwards started working at the Noble Foundation. Since their work involves climbing on roofs and in tight spaces, it's a good idea to have two people go out on the job, Kendall said. "Plus, working on these systems is like a puzzle," he added. "Sometimes you might see that the motor is running, but it's not cooling. It's good to have two minds working."

Their standard practice turned out to be lifesaving in July when Edwards collapsed while the two were working on a system at the Noble Foundation Conference Center.

Kendall's eyes stare straight into the wall and his voice darkens as he talks

about that day. Everything was going good, he said. He checked the gauges, and then he turned back to talk to Edwards when he realized something was wrong. Edwards slid down the wall, slumping over. He remembers checking for a pulse and not finding one. He pulled Edwards out in the hall and started yelling for help then started chest compressions. "Call 911 - Jeff's down!" he remembers calling to Gary Jackson, conference center manager, who had popped his head out of the kitchen down the hall in confusion. They continued the chest compressions along with Thurman Householder and Chad Boydston, two facilities co-workers, who arrived shortly before the paramedics.

Kendall remembers standing back as the paramedics took over. "It was pretty scary," he said. "Really, I don't feel like I did much. If I did anything, it was just being there to yell."

Two months later, Edwards walked back into the Plant Operations Building for his first day back at work. He doesn't remember the incident, but he does

remember waking up in the intensive care unit. "The doctors said I was lucky to have Bill with me to start CPR," he said. If Kendall hadn't been with him, it likely would have been hours before someone found him.


"Bill has been solid like a rock," Edwards said. "He could have retired at any time, but I think he enjoys being part of this group."

Back up on the roof, Kendall pulls his glasses out of his shirt pocket to read the refrigeration pressure. With everything checked out, he seals the side back up with a screwdriver and walks the familiar path back to the elevator that will take him to ground level. On the way, he stops and checks on other systems to make sure they're still running without problem.

"I've always been proud of the fact that I work at an organization that helps farmers and ranchers," he had said earlier. "My job is to serve the needs of the organization, and I've enjoyed doing that for all these years." ■

DEEP ROOTS





The Howard family finds generational success thanks to a strong ranching heritage and an enduring relationship with the Noble Foundation.

by Courtney Leeper

Before the construction of Highway 70, a narrow dirt road connected the small southern Oklahoma towns of Ringling and Waurika. Off that lane was, and still is, an early 20th century farmhouse. A metal gate wraps around the white-planked house, which has been updated through the years; inscribed in horse-shoe letters above its side entrance gate is the name "Howard."

Jim Howard and Steve Howard, brothers who grew up in that house made the Howard Cattle Company's office adjacent to a metal shop just a few paces away. They share the space with their two partners – T.J. Neble, Jim's son-in-law, and Kade Howard, Steve's son – who represent the fifth generation to ranch on this land.

Tucked in the corner of the office is a framed newspaper clipping from 1992. Its subject is ►





Don Howard, Jim and Steve's father. At the age of 70, Don was recognized as the Oklahoma Cattlemen's Association's Cattleman of the Year. True to Don's character, the article's subtitle reads: "All work and no play."

"He didn't have a hobby, and he didn't take vacations," Steve said. "He did what he wanted to do – buy cattle and make us work."

The brothers laugh but are quick to say it was Don's vision and dedication that has enabled them to continue making their living off the family land. Don instilled the value of hard work in his family. He and his wife, Vella, had four children: Jim, Steve, Jessie Kay Moore and Dona Brooks; 15 grandchildren and 30 great-grandchildren.

Don also passed along a resource –

Don Howard (bottom left) joined the Noble Foundation consultation program in 1973. His grandfather Noah Howard ranched in Montague County, Texas (top left), before renting then buying land across the Red River. The Howards, including Don's grandson Kade Howard (top right), continue to ranch on the land Noah purchased in what is now southern Oklahoma.

a relationship, really – that the Howards continue to use: the Noble Foundation.

In 1973, Don signed up for the Noble Foundation's consultation program, which provides Oklahoma and Texas farmers and ranchers with access to a multi disciplinary team of agricultural consultants at no cost. The Howards have worked with Noble Foundation consultants for 42 years, making theirs one of the longest, time-tested relationships in the Noble's Foundation's history.

AHEAD OF THE CURVE

Don was born in 1923 in a little white house between the Crooked and Mud creeks in Jefferson County, Oklahoma. The land belonged to his grandfather Noah Howard, who in the late 1880s became the first of the family to ranch in what was then Indian Territory.

When Don returned home from fighting in the Pacific during World War II, he went straight to work on the ranch. Over the next several decades, his focus became building up the operation and expanding.

"Daddy only had a high school

education," Jim said, "but he was always a step ahead of the curve."

Don was willing to try practices that no one else was using. The neighbors laughed when he started running yearlings in the predominantly cow-calf country. They thought he was crazy when he planted bermudagrass in the 1960s. Now both practices are not only common on the Howard ranch but in the region.

Don's desire to learn more, to understand more, drove him to ask questions about how he could improve his operation. When he heard about soil testing – which would enable him to know the nutritive content of his soil – he was intrigued. The only group conducting soil tests in the area at the time was the Noble Foundation in Ardmore, about 40 miles away. So, he reached out. By the mid-1970s, Don's key source of agricultural information was the Noble Foundation.

When Don's brother, a pioneer in the pecan field, died and left a crop in the trees, it was Noble Foundation consultants who helped him learn the basics of pecan production so that he could bring ►



the harvest in for his sister-in-law. Don ended up buying his brother's equipment and pecan orchard, and he continued the business. Thirty-six years later, the Howards still call upon the organization's horticultural consultants when they have questions.

Don was also known to seek out new forage varieties that he could incorporate into his grazing plans. He went to the Noble Foundation for recommendations on what would be compatible with his standard fields of wheat.

"He relied heavily on the Noble Foundation's word," Jim said. "What they said weighed heavily on what he did because they weren't – and still aren't – trying to sell you something. They were just trying to help you."

A NEW ERA

In 1979, Don was asked by Noble Foundation consultants to share his management

practices with other regional producers by presenting at a beef cattle conference.

More than 36 years later, Jim holds the proceedings booklet from that conference while Steve, Neble and Kade look over his shoulder. They are silent for a few minutes, intently reading their father's and grandfather's description of their operation. They were, and still are, raising a cow herd and stocker steers as well as growing dual-purpose wheat. So much remains the same. So much has changed. "One of the biggest changes we've made since then has been no-till," Steve said.

About five years ago, the family started putting away the plows and disks at the recommendation of Jim Johnson, Noble Foundation soils and crops consultant. They started with one field, and each year or two have added another.

Although no-tilling requires them to decrease stocking rates, they save on fuel and machinery wear. They also have a

longer grazing season. No-till enables them to graze these fields until July, whereas they have to start preparing fields for next year's crop by May or June with conventional tillage.

"It's been fun working with the Howards," said Johnson, who has worked with the family since the early 2000s. "I consider them my friends. They're ranchers, cowboys, land stewards, businessmen. They're in it for the long haul – they are making a livelihood for multiple families from multiple generations. It's their business, but it's also their life."

Johnson brought out a soil demonstration on the effects of no-till versus conventional tillage on the soil's ability to retain water. "With no-till, the soil soaks the water up like a sponge instead of getting washed away," Steve said. "He made it to where you can see it, and it's plain to see."

Instead of sowing straight wheat, Johnson has encouraged the Howards to



add other species like oats and turnips into the mix. They have also stopped treating ryegrass in their fields as weeds. Jim likens the more diverse varieties to providing their cattle with a salad bar instead of plain lettuce.

"We're lucky to have the Noble Foundation here," Steve said. "We could pick up the phone right now and call them about a problem with an insect, weed, anything, and they would help us out."

Earlier this year, Steve and Kade were out cutting hay when they found some tall unknown weeds. Steve texted a snapshot of the weeds to Johnson's phone. Johnson replied with the identification: mare's tail. "There's nowhere else in the world you could have texted that picture to and have gotten an answer in 15, 20 minutes," Steve said.

"We don't do everything they say, but we doggone sure do listen to it," Jim added. "I don't know where you could get more accessible unbiased information."

IT COMES DOWN TO FAMILY

Don never stopped working on the operation until just a few months before his death in 2011. The ranch was his life, which has enabled his children to continue making it theirs.

Near the south wall of the ranch office sits a child-sized, primary-colored table and chairs set. This is where Steve's youngest children, Rance, 8, and Lakin, 9, will spend their post-school afternoon while their mom, Kelly, an English teacher at Ringling, takes care of the farm records.

Rance has recently upgraded to a larger pony, which he rides alongside big brother Kade and their father, Steve, when feeding cattle. They feed cattle within sight of the same little house that Don was born in. On the same land that Noah Howard first purchased more than 125 years ago. A tradition never more than an arm's-length away.

"I hope for the same thing Daddy

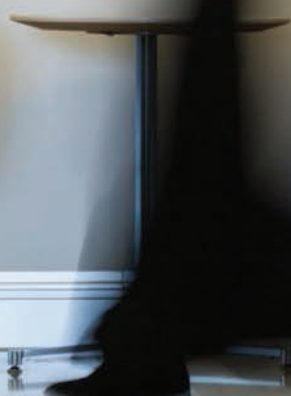
hoped, that this land will stay together as one farm and these boys will be able to carry on what we've built as a family," said Jim, who credits his wife, Betty, for supporting his part in the family endeavor.

So far, the next generation seems willing, if not eager, to take the baton. The sixth generation is well on its way, too. Neble's 14-year-old son, Ethan, helps out with hay during the summers. Kade smiles as he says his 4-month-old daughter, Dylann, will be helping out before he knows it.

"You never quit learning," Steve said. "If they'll watch and learn, then maybe they'll do things even better. Of course, if they need help, they'll know to call the Noble Foundation." ■

Rance Howard, 8, and Kade Howard (top left) help their father, Steve Howard, feed cattle (top right) near the house in which their grandfather Don Howard was born.

THE SAMUEL ROBERTS NOBLE FOUNDATION CARDIOVASCULAR INSTITUTE



Giving from the Heart

Two of Oklahoma's premier research institutions – the Noble Foundation and Oklahoma Medical Research Foundation – forge a historic relationship that now spans four decades.

by Courtney Leeper

Less than 35 words make up the body of one of the first letters between the Noble Foundation and Oklahoma Medical Research Foundation.

The brief note dates back to July 10, 1970, and it enclosed a \$25 donation. The donation, which amounts to about \$155 in today's value, was sent by John March, Noble Foundation president at the time, in response to a request for \$25 to help fund the Leonard P. Eliel Lectureship for Endocrinology.

"We hope this will serve in a small way to aid in the success of the lecture series," wrote March, who had joined OMRF's governing board just two months prior.

Forty-five years later, the letter is filed away in the back of a bulky, pale green folder – one of five dedicated to The Samuel Roberts Noble Foundation – at the medical research institute in Oklahoma City. Though short and simple, the letter marks the beginnings of one of the Noble Foundation's longest tenured granting relationships.

Since 1977, the Noble Foundation trustees have awarded OMRF more than \$19 million to support their researchers' work in studying ways to fight human disease. The most recent and largest of the gifts was \$6 million to support the construction of the Research Tower, which

houses The Samuel Roberts Noble Foundation Cardiovascular Institute.

"The Noble Foundation trustees view OMRF as a premier medical research center," said Mary Kate Wilson, director of philanthropy, engagement and project management. "It brings a certain synergy of research to Oklahoma and increases our state's profile in terms of benefits to healthcare. They are more of a partner rather than simply a grant recipient."

FROM THE HEART, FOR THE HEART

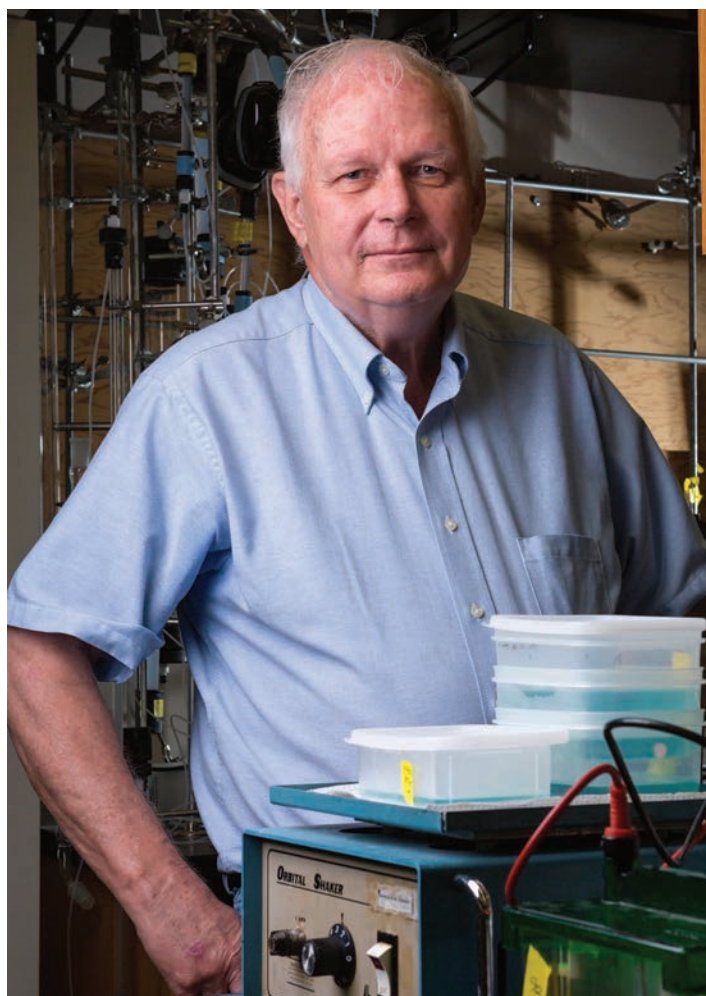
In 1946, OMRF was incorporated by a group of University of Oklahoma Medical School alums. The first research building was dedicated in 1950, and the next two decades of research increased the organization's credibility through discoveries related to cancer, cardiovascular disease and other debilitating health conditions.

By the mid-1970s, the need for more research space was growing dire. In 1977, the Noble Foundation awarded its first substantial gift to OMRF – \$500,000 to enlarge and centralize the Laboratory Animal Resource Center. In the early '80s, OMRF called upon the Noble Foundation for further help. William G. Thurman, M.D. OMRF president, announced the construction date for a cardiovascular research building that would provide 30,000

additional square feet of research space. Before construction could begin, at least 60 percent of the required funds had to be in OMRF's hands. This was especially challenging because of the economic climate of the day – the 1980s oil bust had spiraled Oklahoma into a devastating recession.

Despite the trying financial times, the Noble Foundation trustees recognized the need for high quality cardiovascular research. In early 1950, Lloyd Noble chaired a fund drive for the Oklahoma Heart Association. In a letter requesting donations, he wrote: "Heart disease is your business and my business, because you, your family and friends are among its potential victims. No one can say with any real assurance, 'this can't happen to me'." A few days later, on Feb. 14, he unexpectedly died of a heart attack.

John Snodgrass had assumed the leadership of the Noble Foundation when the trustees approved \$500,000 to be given to OMRF for the cardiovascular research building, which was later named the Acree-Woodworth Cardiovascular Research Building. Snodgrass spoke of Noble's dedication to service and giving during the building dedication on Sept. 23, 1983, 38 years to the week after Noble founded the Noble Foundation. ►



He also announced that the trustees wanted to do more than just contribute to the building. In memory of Noble, they established the Lloyd Noble Chair in Cardiovascular Research, a permanent \$1 million endowment, and set aside \$1.5 million for cardiovascular research operating support over the next five years.

"Although Lloyd Noble's original gift to the Noble Foundation and his subsequent bequests were substantial, I doubt that even he visualized the size and scope of the good works that he had made possible for mankind," Snodgrass said during the dedication.

A CATTLE CONNECTION

Across from OMRF is the University of Oklahoma College of Health Building. That's where Charles Esmon, Ph.D., started his first laboratory after finishing his postdoctoral work at the University of Wisconsin in the mid-1970s.

In the summer of 1982, Esmon joined the OMRF scientific staff and moved his lab into the not-quite-complete Acree-Woodworth Cardiovascular Research Building. The promise it offered was too tempting – more space to conduct his research.

In September 2015, Esmon sat in his office just down the hall from the connected cardiovascular research building in its mirror image, The Massman Building and Mary K. Chapman Center for Cancer Research, which was also constructed with Noble Foundation support.

It was a typical Oklahoma summer – hot, Esmon recalled. His eyes seemed to search for the past, and he chuckled in remembering it. They rolled their equipment over to the new building in the heat trying not to break anything, he said.

Once they moved in, the building was alive with research nearly 24-7. At one time, one lab member started his day at 10

Top: Mei Cheng, a research assistant, has worked with Charles Esmon, Ph.D., on blood coagulation research for more than 20 years.

Left: Stephen Prescott, M.D., serves the Oklahoma Medical Research Foundation as president.

Right: Charles Esmon, Ph.D., holds the Lloyd Noble Chair in Cardiovascular Research at the Oklahoma Medical Research Foundation.

“The Noble Foundation provides tremendous support. Because of them, I can take a longer-term view of research with the people in my lab. That simply would not happen on short-term grants.”

– Charles Esmon, Ph.D.

p.m. and worked through the night in order to have everything prepared for the next day's experimentation.

Esmon's lab was, and still is, studying blood and how it clots. Early in his research career, Esmon began studying Protein C, a critical component of blood that prevents it from clotting within the body. One of the benefits of the new lab was a whole room dedicated to the messy process of isolating Protein C from blood – cow blood.

It was Oklahoma's vibrant livestock industry, in part, that had drawn Esmon to the state. Oklahoma City's beef packing plants kept him supplied with the important research material, which ultimately led his lab to discoveries fundamental to two life-saving therapies: one for a deadly genetic Protein C deficiency; the other for sepsis, a serious illness caused by infection in the blood. The work is also the basis of other research focused on a host of major diseases, from heart and blood diseases to cancer and diabetes.

Over the years, Esmon's work has earned him many high profile recognitions. He became Oklahoma's first Howard Hughes Medical Institute Investigator in 1988, and he has received multiple awards from the American Heart Association, the American Society of Hematology, and the International Society of Thrombosis and Hemostasis. In 2002, he was elected to the prestigious National Academy of Sciences.

While agriculture in a way supported his early research, his research is also

supported by the Noble Foundation – a research organization dedicated to supporting agriculture. In 1996, Esmon was honored as the first Lloyd Noble Chair in Cardiovascular Research, a position he continues to hold.

For Esmon, having the Noble Foundation's financial support means stability for his lab and not having to rely on short-term governmental grants.

"Even in the best circumstances, you can get only 75 percent of your funding from grants," said Stephen Prescott, M.D., OMRF president. "Financial supporters like the Noble Foundation are one of the reasons we've been successful as an organization. Historically, if we've had a worthy project, the Noble Foundation has been willing to help us."

Without relying on short-term grants, Esmon has been able to cultivate his lab members, helping them be successful over time. This, he said, has helped him maintain some laboratory members for more than 20 years.

"The Noble Foundation provides tremendous support," Esmon said. "Because of them, I can take a longer-term view of research with the people in my lab. That simply would not happen on short-term grants."

At 68 years of age, Esmon continues to build off initial findings. About five years ago, Esmon's lab discovered a new property of the critical proteins called histones. These proteins are responsible for folding DNA so that it fits inside the cell nucleus. Although histones serve this critical function, when they exit the cell, generally through a traumatic experience like a car accident or gun shot, "They control your demise," Esmon said. His lab's current research focuses on using this knowledge to help trauma victims. The research is also instrumental in an experimental treatment for hemophilia being developed.

In the spirit of Lloyd Noble, Esmon said he chose to study blood coagulation because he'd be able to ask interesting basic questions that are relevant to making life better for people.

"The research we're studying affects all the major killers – heart disease, sepsis, cancer," Esmon said. "You might develop a reagent, test it, then the next thing you know you've got a therapy that saves lives. That's rewarding. That's what I'm here to do." ■

Dear Robbie

by J. Adam Calaway



Dear Robbie,

I almost didn't write this letter. Three and a half years is a long time to not talk, and I'm not sure I have the words yet. But I know how much you loved the Noble Foundation and an update seemed in order.

We're doing fine. Better than fine, actually. We're blossoming. We're helping agriculture in new and exciting ways, and we're giving back more than ever.

We have a new initiative, one that I know you'd like. "Noble in the Community" gives employees a chance to volunteer together. One of the major community projects is the Lake Murray Shoreline Cleanup, where we collect trash around our beloved state park. Two years ago, I stood on the banks with my half-filled plastic bag and looked out over the water. A gray comforter of clouds released a steady drizzle overhead, and I thought of you. Boating accidents never make sense on this side of forever.

I remember the day I found out you were gone. I came to the office alone and bawled like a baby, writing through tears all the words I wish I could have said to you. No one ever saw those words. I hope somehow you did.

Jill and Gayle still keep photos of you up in their offices – snapshots of running buddies at the finish line of another marathon. Two of the strongest people I've ever met still fight tears at the mention of their best friend.

That's what love does. It remembers. Even though the hurt seeps back in, we hold on, sharing memories of a friend so that we are never truly apart.

This issue of *Legacy* is dedicated to our past, to the people who shaped our present days and laid the foundation for what's next. You were one of those people. You never worked in a laboratory or went on a farm visit, but your life remains a testimony to the lasting impact of one positive person.

You were our cheerleader and simply one of the loudest people I've ever met. Your volume was undeniable. Your raspy "Oh my gosh!" could cut granite. Your throaty laugh erupted without warning. When you laughed, we all laughed.

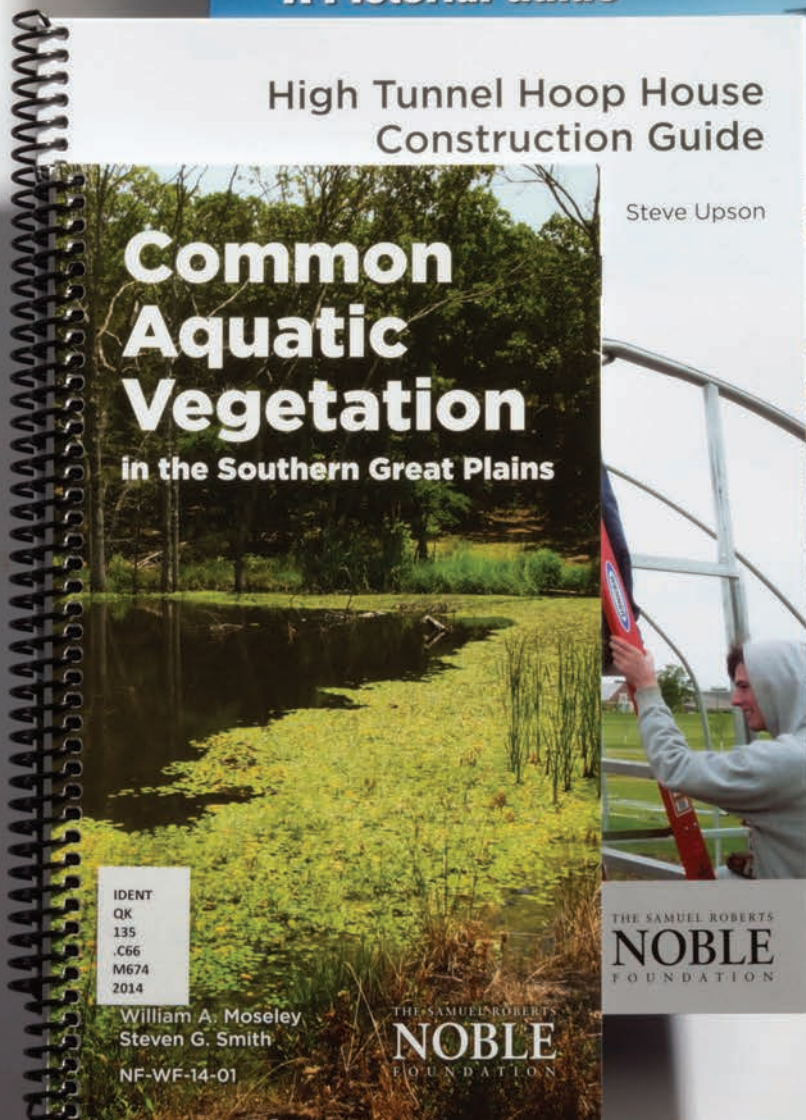
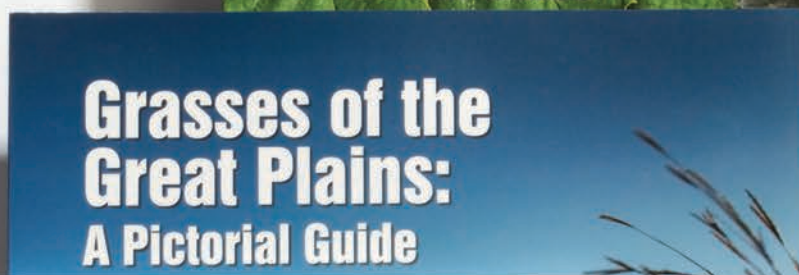
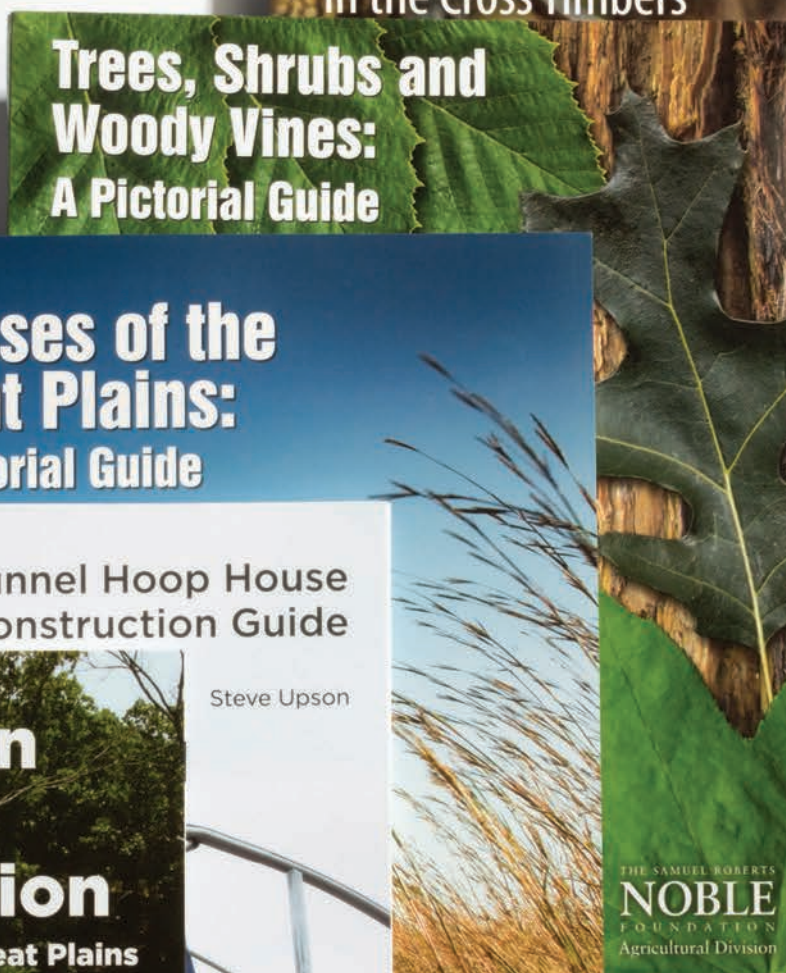
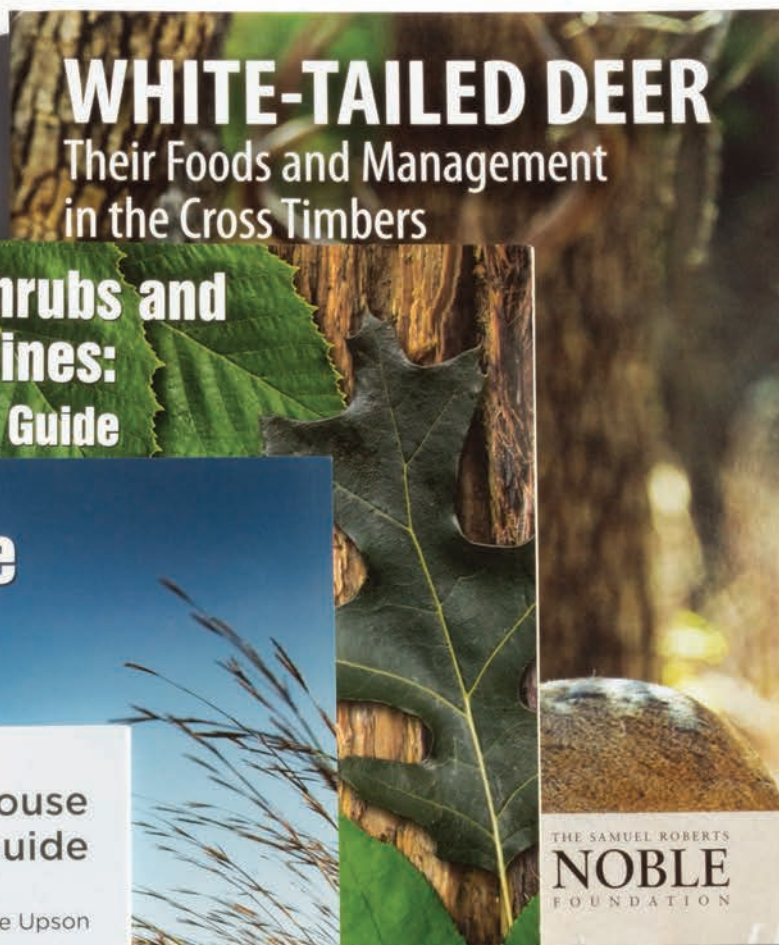
You were one of the rare people who didn't see the glass as half anything. You were thankful for the glass you'd been given, and it overflowed with joy. You poured out encouragement and compassion to a world lacking both.

If others were the muscles and bones of our organizational body, you were definitely our heart. Despite circumstances, despite obstacles, you radiated a pure, honest grace. People flocked to you, and they were not disappointed because – in you – they found kindness.

Kindness doesn't fade, Robbie, and neither will you. Remembering you,
Adam

Consultation you can keep in your truck.

Knowledge is power when it comes to managing natural resources. To keep that knowledge handy, Noble Foundation agricultural consultants have compiled their expertise, research and advice into five full-color guidebooks. Now you can buy Noble Foundation books online through Amazon.com.



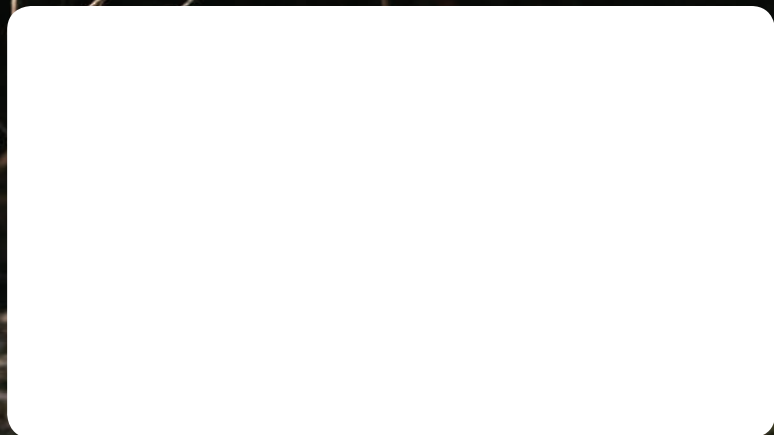
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A buck looks up from taking a drink near doe hunters
in the 2015 Love County Youth Hunt, sponsored in
part by Noble Academy to educate youth about
conservation and safe hunting.