



Noble, to me

The Samuel Roberts Noble Foundation
2013 Annual Report



Creede Speake

INTRODUCTION

Noble, to me

By J. Adam Calaway

Deep lines crease the weathered landscape of Creede Speake's face like peaceful valleys. Etched by time, they trace the countless golden days spent taming the Oklahoma prairie. A journey that reaches back 90 years. A life well spent. Speake is an old cowboy with sunset warming his face.

Pumpkin-colored freckles dot Chance Johnson's face like the sprouts of a freshly planted garden. Not yet faded by time, they tell the story of youth and potential, of eager desire to embrace the legacy of the land. A journey just underway. A life on the cusp of everything. Chance is a young cowboy with countless sunrises ahead.

Speake and Johnson stand at opposite ends of life's spectrum, separated by generations and experience; yet their lives are intertwined by a shared devotion to the land. This unifying pursuit has brought them to the Noble Foundation where, like so many others before and after, they have been strengthened and inspired by an organization equally dedicated to agriculture. Each Noble experience is unique to the individual but inevitably results in a common life-changing outcome.

Thus, this annual report – *Noble, to me* – is filled with personal stories of transformation and appreciation. They are all different. They are all alike. And they begin with founder Lloyd Noble, who changed the life of a 10-year-old-boy – twice.

WALKING THE DUSTY ROAD TOGETHER

For Speake (front cover), the Noble connection reaches back to when the Foundation was barely an idea. As a youngster, Speake held

dreams of slicing the blue sky unhindered by gravity and concern. He often pedaled his bike to the nearby hangar in Springer, Oklahoma, where oilman Lloyd Noble housed aircraft he used to crisscross the country and manage his oil rigs. Speake swept the floors and worked with Noble's pilots, Ben Scott and Art Oakley, in hopes of a short ride. Inevitably, Speake found himself buckled into the back seat of the twin-engine Lockheed 10 or the Staggerwing Beechcraft, where he witnessed history.

There, in the seat just an arm's length away, Lloyd Noble peered out his window, witnessing the ongoing devastation of the Dust Bowl. Those plane rides ultimately yielded crystallizing moments for both the youngster and the visionary philanthropist. Speake became a Navy pilot, serving in World War II and the Korean Conflict, where his youthful joy rides were replaced with blistering aerial dogfights. Noble's ongoing observation of the Oklahoma landscape ultimately served as the genesis of the Noble Foundation, an organization he dedicated to protecting the soil and supporting agricultural producers in their quest to be good stewards of the land.

"Looking back, those plane rides must have helped spur on the idea for the Noble Foundation," Speake said. "He was always talking about the land and interested in preserving the soil. It was always on his mind."

Years later, Speake's path once again intersected with Noble. The young pilot returned home to Milo, Oklahoma, from war and began assembling the family ranch, which now stands at almost 7,000 acres.

NOBLE, TO ME

Speake was energetic but inexperienced, so he reached out to the Noble Foundation in 1948, just three years after its inception.

Working with Noble's Dr. Horace Harper and Ray Dyer, Speake broke with tradition and embraced the latest technologies and methodologies. Seven decades later, Speake laughed as he retold the story of his first few years in the ranching business. He swept a shock of white hair back, repositioning his cowboy hat, and said, "Most people around here thought I'd gone crazy. Nobody was doing what the Noble Foundation was doing, but they were right. They probably saved me from losing it all when I started. And they've been there through all these years."

THE NEW KID ON THE BLOCK

For Chance (back cover), the Noble Foundation is as much a part of his life as blue jeans and boots. His father, Jim, serves as a soils and crops consultant for the organization, so Chance has grown up with a group of agriculturally proficient, adopted uncles.

On a bright spring afternoon, the spunky preteen slouched in an office chair, much to the chagrin of his mother, Kimmie, and talked about the family business.

In addition to Jim's consulting duties, the Johnsons operate 530 acres and run about 40 cows. Chance has been side-by-side with his father for the past several years. "He's my top hand," said Jim proudly.

To which Chance replied with a sly smile, "I'm his only hand." Eleven-year-old sass aside, Chance knows his future is a straight line from this day until he's a full-time farmer. "I want to own goats, chicken, cattle and pecans, and have hunting leases," he said, as though he's reading from a strategic plan.

Along with a handful of goats, Chance already personally owns two of the family's cows. Not only does he know their ear tag numbers (71 and 73), but they are marked with his personal brand. It doesn't seem unusual to this sixth-grader to have a registered brand because that's a necessity of the job. Just like the work.

Chance handles his duties with gusto, independent of the day, weather or his peers' activities. "It's a lot of work, but it's not bad if you enjoy it," he said. "And I love it."

Chance has already enlisted support from the Noble Foundation's consultants, working with the livestock specialists to implement a health protocol. "The Noble Foundation is just a great place," he said. "It helps farmers take care of the land and conserve the soil. If we didn't learn about the soil, Oklahoma could go back to Dust Bowl conditions when they didn't know about water or soil conservation. Noble helps us all do better."

And just like that, one generation links seamlessly to the next, connected by a passion that drives each farmer and rancher, and an organization that remains dedicated to them all.

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PRESIDENT'S MESSAGE: DEFINING TRUE SUCCESS

To our readers,

Thirty-five years ago, I left my family farm in mid-Missouri and began a career that would take me around the world and back again.

Along the way, my family blossomed to six, memories grew in grape bunches, and I learned the invaluable life lessons that reshape a young man's ambitions into an "older" man's wisdom. Hindsight and experience serve as the great ocean tide of life, ebbing one's perspective layer by layer until it unearths simple truth. Starting out, I sought success; then I spent a lifetime defining what that word truly means.

For businesses, success is too often relegated to the narrow gap between black and red lines. For nonprofits like the Noble Foundation, the answer often feels imprecise, incalculable. What goal must we achieve to declare success with no profit margins to measure?

For the Noble Foundation, we define our success through the lives we benefit. Bottom lines will flux in temperamental fits, programs will morph and evaporate, but, as our founder, Lloyd Noble, demonstrated, improving another person's life remains the only true measure of success. It certainly is the only one that will endure.

Most assume that, as a private foundation, this impact takes the shape of financial support to charitable organizations, but the Noble Foundation has always contributed something much greater.

Our agricultural consultants work with farmers and ranchers to reach their land stewardship, profitability and quality-of-life goals. Our researchers contribute knowledge about the fundamental mysteries of plant science to an international scientific community. Our plant breeders develop new varieties with improved traits for geographies in the Southern Great Plains and around the world.

Our educational team helps students experience agriculture – often for the first time – and the opportunity forever changes them. Our scholarships propel students on their lives' journeys, and our employee volunteerism brings compassion to our local community. In every relationship and every interaction for almost seven decades,

we have strived to sow seeds of knowledge, support and hope that will yield lasting value. Therefore, this annual report stands as a testament to the Noble Foundation's far-reaching impact.

The following pages are filled with 30 individual profiles; 15 featuring those who have directly benefited from the Noble Foundation's activities and 15 highlighting members of our team who perform this transformative work.

Each outside individual represents a group we endeavor to benefit, including agricultural producers, young scientists, students and collaborators. In their own words, they describe their personal connection to the Noble Foundation and how our interactions have enriched their lives and organizations.

Likewise, each employee within this report represents a different department or occupation within the Noble Foundation. Their daily actions infuse our programs and projects with passion and purpose. Together, they are a living legacy, working toward the common goal of uncommon generosity.

Reflected in these 30 stories is an endless web of interconnectivity, highlighting the impact of our work on individuals and illustrating this report's theme – *Noble, to me*.

More so, embedded in each of these lives is a fundamental truth – the Noble Foundation has found success because we have helped our fellow man.

Sincerely,

Bill Buckner
President and CEO



THE VISIONARY

Lloyd Noble

Founder of The Samuel Roberts Noble Foundation, Noble Energy and Noble Corporation

Born: Nov. 30, 1896

Died: Feb. 14, 1950

Age: 53

Hometown: Ardmore, Oklahoma

WHY ESTABLISH AN ORGANIZATION TO ADVANCE AGRICULTURE AND SAFEGUARD THE SOIL?

No civilization has outlived the usefulness of its soils. When the soil is destroyed, the nation is gone. (*Lloyd Noble, Nov. 18, 1949*)

WHAT IS MORE IMPORTANT - AGRICULTURE OR OIL?

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. (*Editorial, The Daily Ardmoreite, May 1943*)

WHAT ROLE DO AGRICULTURAL PRODUCERS PLAY IN OUR SOCIETY?

The individual farmer, or landowner, must of necessity be the most powerful agent in conserving and improving our soil. We believe strongly that through his individualized efforts, our farm economy, and

the economy of our entire locality can be raised and maintained at a much higher level. (*The First Three Years, a publication of the Noble Foundation*)

HOW DO YOU DEFINE PROGRESS?

The only degree to which we can make real progress is the degree to which, when we have ideas, that we can get those ideas motivated into action. (*Lloyd Noble, Nov. 18, 1949*)

WHAT ROLE DOES HUMILITY PLAY IN YOUR ORGANIZATION?

Greatness can only come to any individual ... when they recognize that they have much to learn. (*From Lloyd Noble's introduction of Louis Bromfield, date unknown, Ardmore Civic Center (Heritage Hall)*)

WHAT IS YOUR MANAGEMENT PHILOSOPHY?

The degree to which any individual or organization succeeds does not depend upon capital assets; but rather, the honesty, energy, and wisdom of its management, conditioned with the degree to which they resolve loyal and intelligent support from their fellow workers. (*Lloyd Noble's charge to the original trustees, Oct. 22, 1945*)

WHAT ADVICE DO YOU HAVE FOR THE LEADERS OF THE NOBLE FOUNDATION?

My hope is that when into other hands are

placed the responsibility for our mutually built enterprise, those in command will not lose sight of the fact that no individual builds anything worthwhile by his effort alone. (*From the will of Lloyd Noble*).

WILL WE BE ABLE TO OVERCOME THE CHALLENGES OF TOMORROW?

As I look around at the strides that have been made in our research laboratories, as I look at the things undreamed of a few years ago ... the only degree to which we have reached the end of the road of opportunity is the degree to which we have exhausted the imaginative capacity of the human mind. (*Lloyd Noble's speech to the Tulsa Farm Club, Jan. 22, 1948*)

WHAT PIECE OF ADVICE DO YOU HAVE FOR FUTURE GENERATIONS?

The obligation that rests squarely on the shoulders of each generation is not what they inherit, what they have handed to them or what they have in their hands or what they acquire from the standpoint of wealth or position, but what they do with the wealth or power that they have in their hands. (*Lloyd Noble, 1943*)

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Legacy.



THE VOLUNTEER

Wadell Altom

Noble Foundation Retiree

Final position held at the Noble Foundation: Senior Vice President and Director of the Agricultural Division
Age: 71
Years served: 43

WHAT IS YOUR CONNECTION TO THE NOBLE FOUNDATION?
I am a retiree.

WHAT DOES IT MEAN TO YOU TO BE THE LONGEST-TENURED EMPLOYEE IN NOBLE FOUNDATION HISTORY?
Long tenure shows that Noble Foundation leadership values people and their contributions to the organization. I often commented how great it was to get paid for doing something I really enjoyed. It was certainly an honor to work at one place that long.

WHEN YOU LOOK BACK ON YOUR CAREER, WHAT ONE ASPECT STANDS OUT THE MOST?
The people. During my time as an employee, I was able to meet and interact with many great people from all over the world. These included fellow staff, agricultural producers and collaborators (universities, various agricultural agencies and

industry representatives). Some of these people are still friends.

WHAT LIFE LESSONS DID YOU LEARN DURING YOUR TIME AT THE NOBLE FOUNDATION?

Do not let your concentration be about what other people (especially fellow employees) are doing or not doing. Focus on what you are expected to do, and do it to the best of your ability; everything else will take care of itself.

WHAT DO YOU FEEL IS THE MOST IMPORTANT ITEM(S) YOU ACCOMPLISHED DURING YOUR CAREER?
The years of consultation and my part in providing information and services to agricultural producers is at the top, followed by helping reorganize the Agricultural Division and develop strategic plans during a time of transition. We restructured research programs and added educational components that continue to this day.

WHY IS IT IMPORTANT TO PROVIDE CONSULTATION SERVICES TO FARMERS AND RANCHERS?
Farming and ranching require huge investments, and these producers must have ready access to proper information. The supply of new information, along with “well-intended” advice from other producers, and the development of new technology are overwhelming. Successful

producers must have someone help them find the information and technology that best fits their unique situation, and the Noble consultants have been, and still are, great at this.

WHAT IS THE FUTURE OF AGRICULTURE? WHAT WILL THE INDUSTRY LOOK LIKE IN 50 YEARS?

Who knows how this industry will look in 10 years, much less 50? The changes (mostly technology, along with new information) in the last 10 years are almost science fiction! The demand for agricultural products will continue to increase as the world’s population increases. The big questions will be how can we sustainably produce enough to meet this growing demand, and can farmers and ranchers produce these products profitably? The Noble Foundation and its collaborators will be needed more than ever.

WHAT ARE YOU DOING TODAY?
I serve my local church, volunteer at the Lake Murray Village Volunteer Fire District and travel to visit my grandchildren in Florida. I also get out and fish a little but not nearly as much as I imagined when I retired. Mostly, I do what Sheila, my wife of almost 50 years, tells me to do.

WHAT ONE WORD WOULD YOU USE TO DESCRIBE THE NOBLE FOUNDATION:
Extraordinary.



THE COLLABORATOR (ON WHEELS)

Holly Carol

Vice President of Field Service and Leadership Development for Oklahoma Farm Bureau

Employer: Oklahoma Farm Bureau

Age: 29

Hometown: Greensburg, Kentucky

WHAT IS YOUR CONNECTION TO THE NOBLE FOUNDATION?

I collaborated with the Noble Foundation to develop the *Grown for You* mobile classroom.

WHAT IS THE PURPOSE OF THE *GROWN FOR YOU* MOBILE CLASSROOM?

The mobile classroom is designed to effectively tell the agriculture story and is specifically focused on school-aged children. It is an educational experience. We provide an interactive look - through videos, presentations and games - into ag and its importance to society and our state's economy. Our goal is to show the connection between agriculture and our food supply.

WHY IS IT IMPORTANT TO EDUCATE YOUTH ABOUT AGRICULTURE?

In agriculture, we all know that the greatest crop we raise is the next generation. Most of today's youth are far removed from the farm. It is critical that we educate them about the importance of agriculture, its

role in our society, and the necessity of research and technology to enhance it. When they realize that almost everything they eat, wear or use for shelter comes from agriculture, then farmers and ranchers become much more important to them.

WHY IS IT IMPORTANT FOR AG ORGANIZATIONS TO COLLABORATE?

Collaboration is the key to success, especially in agriculture. We work together with other commodity groups and organizations to be able to reach a broader audience and better use limited resources. Plus, most of our volunteers are involved with multiple organizations. Being able to pull together on projects means less time away from the farm and more time effectively spent promoting agriculture.

WHAT WAS COLLABORATING WITH THE NOBLE FOUNDATION LIKE?

The Noble Foundation has exceeded every expectation we had for this project. They have been willing to listen to feedback, help with updates on the systems and develop new, unique activities for the classroom. We are blessed to have such a wonderful organization in Oklahoma to partner with to turn great ideas into incredible realities.

WHAT HAS THE RESPONSE TO THE MOBILE CLASSROOM BEEN?

The response has been overwhelming!

Everyone who has seen the trailer wants it to come to their school, fair, ag day, conservation district, etc. You name it, and we have had calls about it coming! We are already booked through October of 2014 and have several dates booked for spring 2015.

WHAT IS THE FUTURE OF THE *GROWN FOR YOU* MOBILE CLASSROOM?

This is just the beginning. We have lots of ideas for additional programs and hands-on activities, and have begun partnering with other state groups to make our school visits more in-depth. We are just seeing the tip of the iceberg of possibilities.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?

By having a nonprofit agricultural foundation in Oklahoma, we are presented with more opportunities to reach out and teach about agriculture to producers and the next generation. When you look at Oklahoma and the region, the Noble Foundation has done so much to help them thrive by creating opportunities to work together that we can reach all across the state of Oklahoma!

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Opportunity.



THE LAND STEWARD

Chad Ellis

Range and Pasture Consultant

Years of Service: 3
Hometown: Lohn, Texas

WHAT IS THE FOCUS OF NOBLE'S CONSULTATION PROGRAM?
The consultation program provides education and information to agricultural producers and land managers in the Southern Great Plains. Through these relationships, we help them reach their individual goals and improve their land resources using sustainable practices based on science.

WHY DID FOUNDER LLOYD NOBLE ESTABLISH A CONSULTATION PROGRAM AT A PRIVATE ORGANIZATION?
Mr. Noble saw the land as essential to the future successes of Oklahoma and the nation. Even though he earned his fortune through the oil industry, he often said that the land was our most valuable resource and it must continue to be productive long after oil was gone. He understood that producer assistance existed mainly through university-based cooperative extension and experiment stations, which often were challenged by restricted resources. Mr. Noble wanted the Noble Foundation to work with and complement these state-based assets - he was a pioneer of early public-private partnerships to benefit agriculture and private landowners.

WHAT NEW INITIATIVES ARE UNDERWAY TO SUPPORT THIS VISION?
Last year, we started designing the Center

for Land Stewardship, which brings together interested parties to leverage the Noble Foundation's expertise to achieve greater outcomes in land stewardship than could otherwise be achieved independently

WHY WAS THIS NEEDED?
Private lands in the United States are undergoing profound socioeconomic and demographic changes. The drivers of such change include government regulations, land fragmentation, intergenerational land transfers, severance of ownership rights, energy production, weather (including drought) and water usage. These same landscapes often play an unseen role in water availability, food and national security. With the continuing disappearance of rural lands, a better understanding of the value and stewardship of privately owned, working lands should become a national priority. The Center for Land Stewardship offers a focused mechanism to support a partnership of landowners, agricultural industry, wildlife and conservation organizations, and government agencies. The Center will serve as more than just a meeting place to share ideas; it will offer a transformative tool to inform, engage, and enable individuals and organizations to be better stewards and improve healthy ecosystems to achieve societal, environmental and economic objectives.

HOW WILL THE CENTER IMPACT FARMERS, RANCHERS AND LANDOWNERS?
The Center will be a hub of education - communicating best practices, designing practical solutions and advocating for resource stewardship. We want to provide

all land managers with the best possible, scientifically proven, educational resources so they can make informed decisions and better manage all aspects of their land, including animals, plants, soil and water.

HOW WILL YOU DETERMINE THE SUCCESS OF THE CENTER?
Our measures of success include community accountability, operational freedom, conservation of resources, sustainability of both natural resources and profitability, and individual quality of life.

HOW WILL THE CENTER IMPACT THE PUBLIC AND THE CONSUMER?
Land stewardship is good for everyone and has global application. Land is at the center of any productive society - without useful land, there is no food to eat, no clean water to drink and no basis for community, urban or rural. At the end of the day, the Center for Land Stewardship will help ensure this treasured resource is healthy for generations to come, just like Noble envisioned almost seven decades ago.

WHAT'S THE NEXT STEP FOR THE CENTER?
We are currently working to facilitate and organize key national groups necessary to begin the dialogue regarding land resources. Together, we will identify and prioritize the issues, then work together - not in silos but as an organized group - to maximize resources and produce tangible outcomes.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:
Solutions.



THE GREENHOUSE GO-TO

Janie Gallaway

Greenhouse Assistant

Years of Service: 15

Hometown: Shawnee, Oklahoma

WHAT DOES A GREENHOUSE ASSISTANT DO?

The Noble Foundation conducts plant science so they need well-maintained plants. That's where we come in. We plant seeds, transplant seedlings, harvest and handle extensive trimmings, all while maintaining proper water, fertilization and pest control. In short, greenhouse assistants take care of the plants so the scientists can focus on the actual research.

WHAT ARE SOME INTERESTING FACTS ABOUT THE NOBLE FOUNDATION GREENHOUSE?

We have about 50,000 square feet of greenhouse space, which makes us one of the largest single research greenhouses in North America. While most greenhouses focus on heating, we focus on cooling because we are in the Southern Great Plains. We have two ranges, one that uses an evaporative cooling system (so it's hot in the summer) and a 10,000-square-foot range that is 68 degrees Fahrenheit year-round. While most homes in our region have a 2- or 3-ton air conditioning unit, each of our 500-square-foot rooms in this range has a 19-ton air conditioner. This means we can keep our temperature within

half a degree of the designated temperature year-round.

WHAT ARE MOST GREENHOUSE VISITORS SURPRISED TO LEARN ABOUT?

Visitors always learn a tremendous amount about our research through our plant care. Still they are usually most surprised by the earthy aroma they encounter here, the temperature differences between the two ranges and the cleanliness of the facility. And, of course, our pest control methods.

HOW DO YOU MANAGE PESTS IN THE GREENHOUSE?

Everybody sprays pesticides, so, yes, we do have to spray. But we also employ other novel methods like using plant-friendly bugs to control the thrip population and nematodes that surf through the soil to protect the root from invasive pests. One of the visitors' favorite pest control methods is sticky plates. We take different colored plastic plates (different bugs are attracted to different colors), paint them with sticky glue, and then the bugs land on them and are caught. This is very low-tech but effective.

HOW HAS TECHNOLOGY IMPACTED PLANT CARE?

Technology has greatly advanced plant care. Our west range is one of the most technologically advanced greenhouse spaces in the Western Hemisphere. It has automated flood benches to help keep watering extremely precise. We also have

computer systems that control temperature set points, humidity, fill tanks and our black-out shade systems which we use to adjust day length.

EVEN WITH ALL THE TECHNOLOGY, HOW MUCH WORK DO YOU HAVE TO DO BY HAND?

I work with *Medicago truncatula*, which is a cousin to alfalfa. It's a legume that spreads out. Unfortunately, we do not have the space to let thousands of *Medicago* plants grow out so we have to use bamboo stakes and tie them up - one at a time. We also fill thousands of pots with soil by hand, hand-bag each of the plants to contain the seed pods and still handle some watering for specialized plant care. Most importantly, we mow an acre of grass and legumes every 10 days ... by hand.

WHAT'S THE ONE THING YOU WANT PEOPLE TO KNOW ABOUT THE NOBLE FOUNDATION?

It is a special place to work. The diversity and quality of the people make it one of a kind. Not too many people can say they have coworkers from all around the world. At all employee meetings, it is pretty cool to look around the room and marvel at how the Noble Foundation brings all these people from different backgrounds together to focus on improving agriculture.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Giving.



THE INVENTOR

Josh Gaskamp

Ag Research Associate

Years of Service: 7
Hometown: Brenham, Texas

WHY ARE FERAL HOGS SUCH A PROBLEM?
Feral hogs are an invasive species. They can live in nearly any habitat, harming native plants and animals, and cause significant damage to agricultural enterprises. Recent estimates say they are responsible for >\$1.5 billion in agricultural losses in the United States each year. They also have a negative impact on water quality and are a reservoir of various wildlife and livestock diseases.

WHY ARE THEY SO PROLIFIC?
Feral hogs are the most rapidly reproducing large mammal in North America. They are capable of up to two litters in a year with an average of six piglets per litter. The female piglets are capable of reproduction at 6 months of age.

HOW HAVE THEY BEEN TRAPPED IN THE PAST?
Conventional trapping techniques for feral hogs include box traps and corral traps. Box traps are generally an enclosure (about 4 feet by 4 feet by 8 feet in size) with an animal-activated trigger attached to a single door. Corral traps are similar but larger and use wire panels and t-posts.

WHAT ARE THE LIMITATIONS WITH THESE TRAPS?
Feral hogs are inherently trap-shy so they

must be conditioned to enter the traps; this requires several days or weeks of baiting. Another challenge involves the animal-activated trigger. Imagine, 20 hogs come to a trap and the first hog activates the trigger, only capturing a few others. The rest of the hogs outside are now educated to the dangers of the trap.

DO DROP NETS WORK BETTER?
Yes. Drop nets, which are activated on-site by a user, are more effective than conventional designs. We found that feral hogs did not seem to associate the suspended net overhead with any danger, but rather they see it as walking under the tree canopy. They can enter and leave from any direction. This resulted in the hogs being more comfortable with the traps. Research showed that drop nets captured 86 percent of a population compared to 49 percent with conventional designs with similar time invested. You must remove about 70 percent of a population on an annual basis to keep it from growing. However, a human-activated trigger requires you to be on-site, usually during the night hours. After the drop, hogs must also be untangled from the nets and dealt with immediately.

WHAT MAKES THE NOBLE DESIGN SPECIAL?
Through research, we realized the solution was a hybrid trap – one that combined the good qualities of both concepts. This was the birth of BoarBuster, a suspended, rigid corral trap that can be observed in real-time and dropped from off-site.

HOW DO YOU DROP IT FROM OFF-SITE?

A user with an Internet connection receives a text on their smartphone or an email on their computer when motion sensors are activated at the trap. You then log on, watch the live video stream and drop the trap with the stroke of a key.

WHAT IS ONE OF THE MOST INTERESTING FACTS ABOUT THE BOARBUSTER?
I am able to capture an entire sounder of hogs while keeping a busy schedule. With nothing more than an iPhone, I have been able to trap hogs from my couch or from my desk at work. I have even captured 30 hogs from the Ballpark in Arlington watching a Texas Rangers game.

HOW EFFECTIVE IS BOARBUSTER?
Our ongoing research shows that BoarBuster captures 88 percent of the population while only requiring one-third of the time investment necessary for drop nets or conventional traps.

WHEN WILL IT BE COMMERCIALY AVAILABLE?
We anticipate availability by the end of 2014 or the first quarter of 2015.

HOW WILL IT IMPACT AGRICULTURE?
This is a game changer. Conventional techniques temporarily displaced or reduced populations. BoarBuster can eliminate entire sounders so will have a longer lasting impact, and producers can spend less time trapping.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:
Generous.



THE GIVING HART

Sarah Hart

Gardener at Lucaya Plantation in West Tennessee

Age: 24

Hometown: Midland, Texas

WHAT IS YOUR CONNECTION TO THE NOBLE FOUNDATION?

I was the first-ever Noble-Watoto Scholar.

WHEN DID YOU GRADUATE AND WITH WHAT DEGREE?

I graduated in July 2013 with a master's degree in agriculture, international option.

HOW DID YOU HEAR ABOUT THE PROGRAM?

During my graduate studies at Oklahoma State University, I was looking for an international internship so my advisor introduced me to Noble Foundation Agricultural Economist Steve Swigert. Steve had been volunteering with Watoto Childcare Ministries for several years, helping them develop sustainable agricultural practices and grow their farms so they could feed 2,500 orphans. Steve and the Noble Foundation, working in partnership with OSU and Texas A&M, had just created the Noble-Watoto Scholar program. Everything just came together, and I was the first student selected.

WHAT DID YOU DO AS A NOBLE-WATOTO SCHOLAR?

I spent more than three months in Uganda assisting the agriculture team in Watoto's

Sustainability Department. I did whatever I could to help. I handled record keeping on the farms. I researched prices for various inputs. I helped survey and supervise the building of a dam on the vegetable farm to collect rainwater for irrigation during the dry season.

HOW DID THE EXPERIENCE IMPACT YOU?

I had already been to Uganda once before on a shorter trip, so I knew what to expect (sights, smells, sounds). However, on this longer trip, my experience was less about getting there and getting back, and more about living life. I already knew it would be difficult to witness widespread poverty, but during this trip I got to know Ugandan people as human beings and not as numbers and statistics. You cannot make these connections and not be changed as a human. Your perspective is forever altered. Your compassion increases. Your sense of priorities is realigned. Personally, my adjustment back to life in the United States was harder than my adjustment to life in Uganda.

WHAT WAS YOUR DEFINING MOMENT?

Simply put: the whole experience was redefining.

WOULD YOU GO BACK?

In a heartbeat.

WHAT WOULD YOU SAY TO FUTURE SCHOLAR APPLICANTS?

If you can go, go. Make friends, live life and do what you can to help a wonderful minis-

try. You may not be able to "fix" the world's problems, but you have much to offer, and you can impact lives.

WHY IS EDUCATION SO IMPORTANT TO AGRICULTURE AND ITS FUTURE?

Education is more about knowing how to learn than it is about having degrees or diplomas to prove expertise. Agriculture needs good learners to step up and become the next generation of farmers and ranchers.

WHY DO YOU WANT TO WORK IN INTERNATIONAL AGRICULTURE?

There are currently about 7 billion people on Earth, and 1 billion of them are significantly malnourished. There is enough food for everyone, but some areas have more than they need and others have too little. I want to work against hunger by helping farmers produce more food where it is needed and improve markets so food is accessible to all.

WHAT'S THE ONE THING YOU WANT PEOPLE TO KNOW ABOUT THE NOBLE FOUNDATION?

The Noble Foundation fills an important need by helping farmers and ranchers in the Southern Great Plains. The Noble Foundation can offer the world so much as it expands its mission globally.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Visionary.



THE LEADER OF THE PACK

Lori Heman

Agricultural Administrative Assistant and Employee Team Leader

Years of Service: 12

Hometown: Omaha, Nebraska

WHAT IS THE ROLE OF THE EMPLOYEE TEAM AT THE NOBLE FOUNDATION?

The Employee Team (ET) drives a highly motivated culture at the Noble Foundation. We work to provide both personal and professional employee development opportunities. We represent the Noble Foundation in our community, while serving as advocates for agriculture. We work in tandem with the Leadership Team to ensure the overall success of the organization.

HOW DOES THE EMPLOYEE TEAM DIFFER FROM THE PREVIOUS MODELS?

Historically, the old employee council was a volunteer, ad hoc committee with little input into the organization's direction. That changed in April 2012 when President Bill Buckner upended the concept, giving us the freedom and authority to effect change. Throughout 2013, we grew, learned and developed our programs. Today, we have an active voice in the direction of the organization, and we're seeing the impact of our ideas.

HOW HAS THE EMPLOYEE TEAM IMPACTED THE NOBLE FOUNDATION?

The ET brings together the Noble

Foundation's diverse population. We get to know each other better and together create a working unit that gets things done. It doesn't matter who you are or what your job title is - a postdoc, an environmental services technician, a research assistant, an agricultural consultant, a director or the president - we are all part of the same team, making the Noble Foundation better for all employees while supporting our local community.

WHAT ARE SOME OF THE HIGHLIGHT ACTIVITIES FROM 2013?

Earlier this year, I sat down and documented our 2013 accomplishments. I was amazed at what we accomplished in our first full year. We initiated a variety of training opportunities to improve employee skill sets, such as facilitation, communication, financial fitness and postdoc training. We created an awards and recognition program to acknowledge the good work of our fellow employees. We developed an online, in-house feedback system that encourages employees to submit suggestions, comments or concerns that are immediately handled by the appropriate respondent. One of the most exciting highlights was the formation of the Disaster Relief Team (DRT), which can respond to regional weather crises. They provide support in the form of chainsaw crews to clear fallen trees, cleanup personnel and general assistance. Our DRT crew is ready to move at a moment's notice.

HOW HAVE YOU IMPACTED THE LOCAL COMMUNITY?

The Employee Team has supported three fundraising opportunities as part of the Noble in the Community program: March of Dimes, United Way and Toys for Tots. We actively participated in several community service opportunities, such as the Lake Murray Shoreline Cleanup, Fiesta Oklahoma, Arbuckles to Ardmore (A2A) Race for Mercy raising funds for cancer research and the Cities in Schools summer camp program. We have donated thousands of man hours to these causes.

WHERE DO YOU SEE THE EMPLOYEE TEAM IN 10 YEARS?

It will have grown 10-fold by then. We will have provided more opportunities for employees and continued to provide leadership throughout the Noble Foundation.

WHAT DO YOU THINK LLOYD NOBLE WOULD SAY ABOUT THE EMPLOYEE TEAM?

I believe Mr. Noble would be pleased to see the teamwork and commitment of Noble employees working to promote his mission and vision. I think he would say, "That's a job well done."

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Committed.



THE FUTURE ALCHEMIST

Van Hicks

Dickson Middle School Student

Age: 13

Grade: 8

WHAT NOBLE ACADEMY ACTIVITIES HAVE YOU PARTICIPATED IN?

When the Noble Foundation visited my class, we got to work on extracting DNA from a strawberry. We also built DNA bracelets and used a dichotomous key, which helps you identify a species.

WHICH ONE WAS THE MOST EXCITING? WHY?

The DNA extraction was awesome. It was my favorite by far because DNA is the building block of life and with just a couple of quick steps you can actually see it. It was the coolest.

WHAT DID YOU LEARN FROM THESE ACTIVITIES?

I learned so much about DNA and its structure. I learned how it shapes animals and plants. We also learned how to use a dichotomous key. It sounds difficult at first, but once Dr. Hardin (Educational Outreach Manager) showed us, it was easy.

HOW HAVE THESE ACTIVITIES SHAPED YOUR THINKING ABOUT AGRICULTURE?

It has given me more respect for the people who work in the agriculture field. When you think of agriculture, you usually just think about farmers. But you never think about all the people who do research and how important that research is to everyone in the world.

WHY DOES YOUR GENERATION NEED TO LEARN ABOUT AGRICULTURE?

Agriculture gives food, clothing and shelter

to us all. A lot of my friends do not know all the things agriculture does for us or all the jobs that are a part of agriculture. We need to learn this.

WHAT DO YOU WANT TO BE WHEN YOU GROW UP?

I want to be a chemist.

WHAT'S THE ONE THING YOU WANT PEOPLE TO KNOW ABOUT NOBLE ACADEMY?

That it is a fun learning experience. When you talk about science and agriculture, a lot of kids don't think you can have fun or they don't see how it relates to them. Dr. Hardin makes it interesting and shows you how important all of it is.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Awesome!



THE SHERLOCK HOLMES OF METABOLITES

David Huhman

Analytical Chemistry Core Facility Manager

Years of Service: 22

Hometown: Ardmore, Oklahoma

WHAT DO YOU DO AT THE NOBLE FOUNDATION?

I analyze, identify and quantify the primary and secondary metabolites in plants. I also train researchers in methods of metabolite extraction and data analysis.

WHAT IS METABOLOMICS?

It is a comprehensive study of metabolites which looks at molecules or chemical fingerprints that are left behind by cellular processes in living organisms. It can provide an overview of the normal metabolic status of an organism or cell. It can also show their dynamic responses to genetic, abiotic and biotic environmental changes.

WHAT DO YOU HOPE TO LEARN FROM THIS RESEARCH?

Researchers use metabolomics to discover

how plants (and other organisms) change and respond to stresses such as disease, drought and insects. This, in turn, helps direct the researcher toward ways to improve plant traits such as drought tolerance or disease resistance.

WHAT SERVICE DOES THE ANALYTICAL CHEMISTRY LAB PROVIDE?

Scientists are usually specialists in a designated area of study, so not all are analytical chemists and able to actually conduct research in metabolomics. This is where our laboratory comes in. We are one of the "core facilities" that provide specialized services to other scientists.

WHAT OTHER CORE FACILITIES EXIST AT THE NOBLE FOUNDATION?

There is the cellular imaging facility, a genomics facility, a forage analysis laboratory, the Noble Foundation greenhouse, molecular and biological curation and a transformation facility.

HOW DO CORE FACILITIES IMPACT NOBLE'S RESEARCH?

The core facilities are a great in-house resource for our scientists. They provide researchers with consistent, reliable and tailored services performed by trained staff using state-of-the-art equipment and instrumentation. We are like private detectives for hire, but we work to understand the fundamental chemical structures of plants instead of to investigate a mystery.

WHAT'S THE ONE THING YOU WANT PEOPLE TO KNOW ABOUT THE NOBLE FOUNDATION?

People from many different cultures and countries have come together in Ardmore, Oklahoma, to pursue Lloyd Noble's vision of advancing agriculture. Despite geographical and ethnic differences, we are united in a common pursuit. It is a rare and wonderful workplace, and a powerful testament to unity toward a shared vision.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Pioneering.



THE “TEAM” MEMBER

Lynne Jacobs

Research Assistant III

Years of Service: 9
Hometown: I was born in rural North Dakota, but Arizona will always be home.

WHAT DO YOU DO AT THE NOBLE FOUNDATION?

I spend a lot of time in the greenhouse, breeding plants and creating new hybrids. If the outcome looks promising, our research group takes these hybrids to field trials to determine how they tolerate grazing pressure, drought, cold, disease, etc. This requires a significant amount of data collection, manual labor and, oftentimes, a little luck with the weather. We are always in pursuit of new cultivars that will be valuable to the agricultural industry.

IN ADDITION TO YOUR WORK, WHAT OTHER ACTIVITIES DO YOU PARTICIPATE IN?

I have always been a big supporter of causes within the community. I am happy to say that the Employee Team and Leadership Team at the Noble Foundation created a program in the past year called Noble in the Community.

WHAT IS NOBLE IN THE COMMUNITY?
Noble in the Community is a program that motivates Noble employees to get involved by volunteering for various projects and

addressing needs within the community. It encourages us to come together as a group for the common good.

WHAT WERE SOME OF THE 2013 NOBLE IN THE COMMUNITY ACTIVITIES?

There were so many! We helped the Cities in Schools programs. We made care packages for our military serving abroad. We worked at the Ardmore Soup Kitchen. There was literally a volunteer opportunity for any interest.

WHAT HAVE YOU DONE AS PART OF THE PROGRAM?

While I participated in several of the activities, my biggest contribution was as the champion for the Arbuckles to Ardmore (A2A) Race for Mercy, a fundraiser for the Mercy Cancer Center here in Ardmore, Oklahoma. This year, nearly 60 Noble employees put together two water stations for the marathon and half-marathon runners. We had signs and music, and we did everything we could to encourage them.

HOW HAS THE MERCY CANCER CENTER IMPACTED YOU PERSONALLY?

As a cancer survivor who received wonderful care nearly three years ago at the then newly opened Mercy Cancer Center, I am personally invested in this cause. Not only was I proud of the fact that so many fellow employees enthusiastically turned out to help, but many who didn't make the water station were involved in other activities such as stadium setup, registration, bike

patrol, trash cleanup, food service and course marshaling. More than 100 people from Noble alone signed up to assist with this event. This race is vital to supporting the Mercy Cancer Center. You don't understand what it means to have a facility like this locally until you've been in a situation where you needed it.

WHY IS IT IMPORTANT FOR THE NOBLE FOUNDATION TO BE ACTIVE IN THE COMMUNITY?

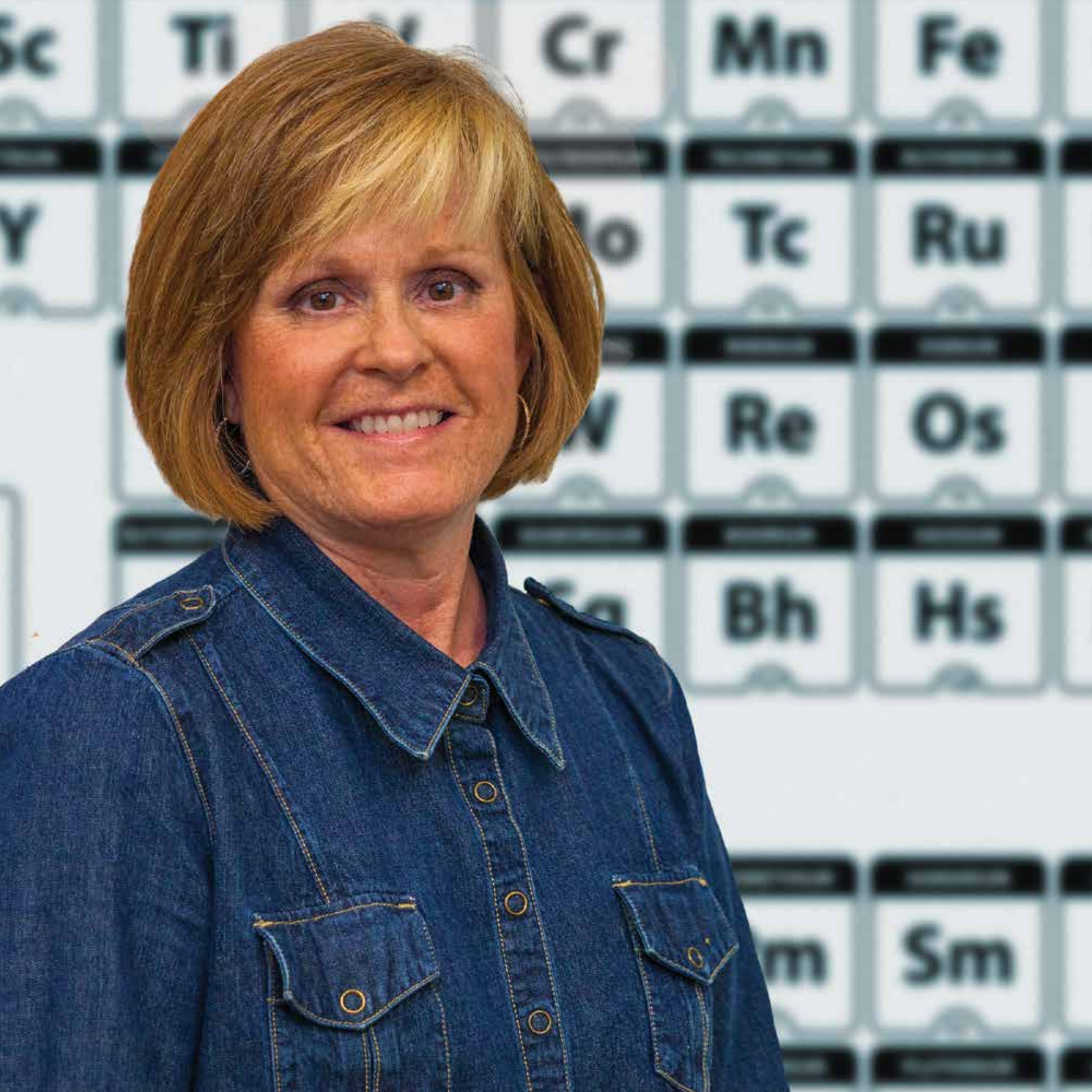
The Noble Foundation is already well known for its philanthropic activities through grantmaking. While money is important, it can be impersonal. This is different. This is human. People make a different kind of impact than a check. Additionally, it's how these activities draw people together. What were once merely "coworkers" are now friends, people I look forward to working with and seeing every day.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?

The Noble Foundation gives us the opportunity to create something important to society, whether it is rural or urban, local or global.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Agri-philanthropy. Yes, I made that word up, but "giving back to agriculture" is the perfect word!



THE EDUCATOR

Jacquie Jones

Eighth-grade science teacher at Plainview Middle School

Occupation: Teacher
Hometown: Shawnee, Oklahoma

WHAT NOBLE ACADEMY ACTIVITIES HAS YOUR CLASS PARTICIPATED IN?

We have done many of the science classroom labs, including lessons on *The Carbon Cycle*, *The Potential of Hydrogen*, *The Rock Cycle* and *The Key to Leaf Identification*. I have also had students participate in *Science in Ag Day*, which takes place on the Noble Foundation campus.

WHAT DID YOUR STUDENTS LEARN FROM THESE ACTIVITIES?

Through *Science in Ag Day*, they learned about various aspects of agriculture and how it relates to science and their everyday life. They learned about the importance of plant identification and pollination, and how different types of crops help prevent erosion. Additionally, Noble Academy classroom activities have taught the students how agriculture can be directly linked to almost every aspect of their lives.

WHAT ARE YOUR STUDENTS' FAVORITE ACTIVITIES? WHY?

The Carbon Cycle lab is their favorite by far. The highlight is when CO₂ bubbles form and catch in their gloved hands. After bouncing the bubble back and forth

several times, the bubbles break and the students can see the CO₂ float downward. Through this inquiry-based lab, they learn the importance of carbon and how it cycles through our world.

HOW HAS THE HANDS-ON LEARNING IMPACTED YOUR STUDENTS' ABILITY TO UNDERSTAND THE SUBJECT MATTER?

The Rock Cycle lab activity is a great example of how hands-on learning helps students better understand a subject matter. Because they are not just seeing the information but using one or two senses to gather the information, they remain more engaged. Not only do the students love the activities, but they retain the information better. Also by keeping it inquiry-based, students' interest remains piqued throughout the lab, allowing them to make discoveries along the way.

DID YOUR STUDENTS HAVE FUN?

Yes; absolutely! How could they not with all the excitement created through the labs?

HOW HAVE THESE ACTIVITIES SHAPED YOUR STUDENTS' THINKING ABOUT AGRICULTURE?

Students who have participated in the Noble Academy activities definitely have a greater understanding of how agriculture touches their lives. The more often they are exposed to the information and the various ways it is introduced, the more likely they are to understand the true value of agriculture.

WHY IS IT IMPORTANT FOR THE NEXT GENERATION TO LEARN ABOUT AGRICULTURE?

Most students today have little working knowledge of agriculture. Fewer and fewer students live on farms where the care of plants and animals is a daily activity. You can see the impact of this distance when an instructor mentions that the edible part of a carrot is actually the root. This news surprises a few students. The students of today are the policymakers and leaders of tomorrow. It is vitally important that they know just how important agriculture is to our future.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?

It means that we have a friend in education that is a limitless source of information and guidance. Noble Academy helps direct our youth to become the educated and informed adults of tomorrow.

WHAT'S THE ONE THING YOU WANT PEOPLE TO KNOW ABOUT NOBLE ACADEMY?

Noble Academy takes a routine classroom experience and turns it into something the students get excited about. That's what we want as educators - to make learning exciting, fun and something to anticipate.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Involved.

THE GENERATIONAL RANCHER

Tim Jones

Rancher; retired social studies teacher

Age: 63

Hometown: Gainesville, Texas

WHAT DOES YOUR OPERATION DO?

Gladney Ranch consists of 1,642 acres in Love County, Oklahoma, near the Red River. We are a commercial cow-calf operation with 107 cows. We also have native pecan trees as well as a sand and gravel mine on the property.

WHAT IS YOUR CONNECTION TO THE NOBLE FOUNDATION?

We are what the Noble Foundation calls "cooperators."

WHAT IS A COOPERATOR?

A cooperator is a farmer, rancher or land manager who works hand-in-hand with the agricultural consultants at the Noble Foundation. Backed by research and years of experience, Noble consultants provide no-cost - that's right, no-cost - consultation services that align with the producer's goals, while also ensuring proper stewardship of the land.

WHAT DO YOU GET FOR BEING A COOPERATOR?

I get the best advice available, based on the best research available. Our consultants not only stay current with the Noble Foundation's research, which is world class, but they also stay current with research

being conducted around the world. They give me access to a collection of the best minds in agricultural research.

HOW LONG HAVE YOU BEEN A COOPERATOR?

My father became a cooperator in the early 1980s, and we've been with Noble ever since.

HOW LONG HAS YOUR PROPERTY BEEN ASSOCIATED WITH THE NOBLE FOUNDATION?

The original landowner, J.W. Gladney, for whom the ranch is named, began receiving advice from the Noble Foundation a few years after it was founded in 1945. We have a copy of a letter to Mr. Gladney from Francis J. Wilson, managing trustee, dated April 4, 1949. The letter offers advice based on soil tests to Mr. Gladney that includes applying lime, building organic content of the soil, terracing, planting crops, etc.

HOW HAVE YOU BENEFITED FROM BEING A COOPERATOR?

We have improved the land, continued to halt erosion, improved the quality and health of our cow herd, harnessed and safeguarded our water resources, reduced our environmental impact on a macro scale (including our carbon footprint), and gained a better understanding of business practices.

BEST PIECE OF ADVICE YOU HAVE BEEN GIVEN?

Use current research as the starting point for decision making. We can minimize our

risk and advance our goals much more safely and quickly if we base decisions on the best research available at the time. We no longer make decisions based on the way things were done in the past, or on what our neighbors are doing, or on some romantic idea of what it means to be a cowboy. It makes more sense to let the researchers do the trial and error, and take the risks.

HOW HAS THE NOBLE FOUNDATION MADE YOU MORE SUSTAINABLE?

Sustainability is not an end result; it is a process. One of our consultants once told me that when we make decisions, we must consider the whole picture. Now, every time I make a decision, I think not only about the bottom line, I think about how that decision will affect our quality of life. How will it affect the health of the land and air? How will it conserve water? How will this decision help keep the ranch available for the next five generations to enjoy?

WHAT'S NEXT?

We will continue to manage the cattle operation and work on grooming the next generation. My family is interested in establishing fish and game management enterprises as well as examining the feasibility of some type of aquaculture.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Sorry. One word won't do. I choose two: gracious professionalism.



THE CONSULTANT

James Locke

Soils and Crops Consultant

Years of service: 10

Hometown: Lubbock, Texas

WHAT IS THE SIGNIFICANCE OF THE NOBLE FOUNDATION CONSULTATION PROGRAM?

To use a military analogy, the consultation program is the “tip of the spear” for the Noble Foundation. Lloyd Noble created the Noble Foundation, in large part, to improve the lives of farmers and ranchers, and help them be good stewards of the land. Whether it’s new crop varieties or best management practices developed by our researchers, the consultation program disseminates them directly to agricultural producers in the Southern Great Plains and beyond.

WHAT DO YOU DO AS A CONSULTANT?

All consultants provide counsel and education on a specific area of expertise. My role as a soils and crops consultant is to provide recommendations on fertilizer usage, lime, weed control, and brush and crop management. My efforts as a soils and crops consultant complement the multidisciplinary consultation process that the Noble Foundation makes available to regional producers at no cost. I also write scholarly publications and provide educational programs.

HOW DOES THE MULTIDISCIPLINARY CONSULTATION PROGRAM WORK?

We have experts in the six major disciplines that might be needed by agricultural producers and land managers in the Southern Great Plains. These disciplines are agricultural economics, horticulture, livestock, pasture and range, soils and crops, and wildlife and fisheries. Depending on the individual operation, we are able to layer our recommendations, taking into account each of these disciplines. By taking a holistic approach to our recommendations, we ensure quality land stewardship while helping the producer’s profitability and providing a quality product to the consumer.

WHAT IS THE MOST REWARDING PART OF YOUR JOB?

I enjoy helping producers – especially those who make their livelihood from agriculture – be economically and environmentally sustainable.

GIVE AN EXAMPLE OF HOW ADVICE YOU HAVE GIVEN HAS IMPACTED A PRODUCER?

The most common impact I have on producers is helping them to make efficient use of fertilizer inputs based on soil samples. Fertilizer is one of the largest costs for many producers, so making the most efficient use of fertilizers can have a significant impact on their bottom line.

WHAT RELATIONSHIP IS FORMED BETWEEN A CONSULTANT AND A PRODUCER?

The most rewarding relationships are those formed by a bond of trust where the producers value their consultants as an

integral part of their management team. Oftentimes, a relationship between consultant and producer lasts years or decades. These relationships can even be passed through the generations.

WHAT IMPACT HAS THE NOBLE FOUNDATION’S CONSULTATION PROGRAM HAD ON THE SOUTHERN GREAT PLAINS REGION?

The Noble Foundation’s consultation program has been instrumental in helping bring new best management practices to both the producers we work with and those whom they influence. Perhaps one of the greatest single contributions introduced by the Noble Foundation is the now widely accepted practice of grazing stocker cattle on small grains winter pasture. This is just one of many best management practices the Noble Foundation has helped bring to producers.

WHAT DO MOST PRODUCERS SAY TO YOU AFTER THEY SEE THE CHANGES FROM YOUR CONSULTATION ADVICE?

Thanks; I have had several producers say that they would not be in business today without the assistance they received from the Noble Foundation.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Supercalifragilisticxpialidotious. There isn’t any real word that can begin to describe the Noble Foundation. I’ve tried to give a short explanation of our organization many times and just can’t do it.



THE AG-VOCATE

Jayson Lusk

Regents Professor and Willard Sparks Endowed Chair in the Department of Agricultural Economics at Oklahoma State University

Age: 39

Hometown: I grew up in Lockney, Texas, and Wellman, Texas

HOW ARE YOU CONNECTED TO THE NOBLE FOUNDATION?

Since being at OSU, I've had the opportunity to meet and work with several people at the Noble Foundation and have been involved in a couple of joint research projects. In the past year, I've served as The Samuel Roberts Noble Distinguished Fellow at the Oklahoma Council of Public Affairs.

WHAT DO YOU HOPE TO ACCOMPLISH THROUGH THE OKLAHOMA COUNCIL OF PUBLIC AFFAIRS?

Much of the editorializing and advocacy about food, agriculture and economics is not well rooted in scientific knowledge. One of my aims is to advocate for more evidence-based analysis and to highlight the costs, benefits, tradeoffs and unintended consequences of policy proposals. In general, I'd like to see more humility in advocates regarding the anticipated effects of policies. I also want to remind people

of the critical role of technological and scientific advancement in addressing the pressing problems in food and agriculture.

WHAT IS THE PREMISE BEHIND YOUR MOST RECENT BOOK, *THE FOOD POLICE*?

Much of what people are told and perhaps have even come to believe about food and agriculture is wrong. There remain pressing problems, but the story of the last century is one of remarkable progress and achievement in food and agriculture. Farmers today are more sustainable, producing more food using fewer resources. Consumers are eating better and living longer while spending less. This should be the starting point of thinking about food. Calls to reject our modern food production system for a more "natural" past and particularly policies that would force this type of food and agriculture upon us will do far more harm than good. *The Food Police* aims to spark a discussion around food, hoping to educate, inform and generate better understanding.

WHAT ARE THE BIGGEST CHALLENGES FACING AGRICULTURE?

Sustainably feeding a growing world population remains a challenge. More than a billion new people will arrive on this Earth in the coming four decades, and feeding these extra mouths with our current resources will require technological advance-

ment. And yet we have a food culture that is skeptical, even hostile, toward the use of technology in food and agriculture. To add to this problem is the fact that less than 2 percent of the U.S. population makes a living farming. Thus, we have a large share of voters and politicians advocating for policies who have little direct knowledge of the sector they seek to regulate.

WHAT HAPPENS TO THE AG INDUSTRY IF WE DON'T CORRECT MISPERCEPTIONS?

If agriculture doesn't progress (or if it is constrained by policies or cultural norms), food prices are likely to rise, and the most adverse effects will be felt by those who can least afford to pay higher prices.

WHAT'S THE ONE THING YOU WANT PEOPLE TO KNOW ABOUT THE NOBLE FOUNDATION?

Here is an organization working at the interface of science, technological development and application. It can take the science it develops and put it into real-world practice, and it does so without relying on taxpayers' contributions, which provides flexibility and frees it from certain political considerations.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Ag-vocate. An advocate for agriculture.



THE EMERGING LEADER

Becca McMillan

Executive Assistant to Senior Vice President and Director of the Agricultural Division

Years of service: 8

Hometown: Georgetown, Texas

WHAT DO YOU DO FOR THE NOBLE FOUNDATION?

I provide administrative support for the director of the Agricultural Division and the division's employees. I represent Noble at both state and national levels by networking with agricultural industries and associations that align with our mission to educate and address the needs of producers and consumers.

HOW ARE YOU INVOLVED IN AG?

My husband, Zeno, and I own and operate a cow-calf ranch in south-central Oklahoma, and hope to one day pass it on to our daughter, Rory.

WHAT AGRICULTURAL ORGANIZATIONS ARE YOU INVOLVED WITH?

I represent the American National Cattlewomen on the National Cattlemen's Beef Association Ag and Food Policy Committee. Also, at the state level, I am one of two south-central directors for the Oklahoma Cattlewomen and chair their Government Affairs Committee. Through the Oklahoma Cattlewomen, I was appointed to the board of directors of the Oklahoma Beef Council.

WHAT PROBLEMS ARE FACING AGRICULTURE IN THE NEXT GENERATION?

There is a significant disconnect in the

consumer's mind between how food is produced and the reality of how it moves from pasture to plate. More than 98 percent of people today have little or no connection to agriculture. The majority of Americans are three or four generations removed from the farm, and many haven't even visited a farm in five years or more. This disconnect is alarming, especially when our society is so influenced by perception instead of fact-based science.

WHAT ELSE IS IMPACTING CONSUMER PERCEPTION?

Anti-agriculture activists are leading the public to believe the industry is made up of insensitive factory farms, and people actually believe them. I never believed that agriculture would be in the position it is today – defending our livelihood. If you eat, if you wear clothing, you depend on agriculture, which means everyone depends on agriculture. It is fundamental to life. But these groups are attacking the very people who are feeding them.

HOW DO WE SOLVE THESE PROBLEMS?

We need to do a better job of having a united voice advocating for agriculture, as well as demonstrate how agriculture touches every other industry. It's also important to open a dialogue between agricultural producers and consumers so that they get the correct information from the people responsible for feeding this country.

WHAT DO YOU WISH EVERYONE KNEW ABOUT AGRICULTURE?

I wish every consumer knew the truth

of what we do and how hard we work. Being a "farmer" or "rancher" is not just a job title; it is a way of life. If you are an agricultural producer, you have dedicated your life to producing food, feed and fiber for the world, and doing it in a sustainable, responsible manner. When we first began ranching, Zeno's father, Terry, and grandfather, Hop, ingrained these words in us: "Take care of the land, and it will take care of you." That's how we approach our land.

WHAT DOES IT MEAN TO BE A LEADER IN AGRICULTURE?

Leading means taking your passion for agriculture and turning it into action. All leaders should seek to educate and increase awareness about the true impact of the industry and our role in society.

WHAT ADVICE WOULD YOU GIVE TO YOUNG LEADERS ENTERING THE AGRICULTURE INDUSTRY?

Get involved. It's that simple. Get involved at the state and national levels. Contribute wherever you can. Be a spokesperson when possible, and pay attention to agricultural policy.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?

It means hope and having an ally that supports today's generation and future generations at all levels and in all facets of agriculture.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Hope.



THE ALLY IN EDUCATION

Steve Mills

CEO of the University Center of Southern Oklahoma

Age: 60

Hometown: Ardmore, Oklahoma

WHAT CHALLENGES DO YOU FACE AS AN EDUCATOR IN SOUTHERN OKLAHOMA?

Providing adequate resources to meet the increasing needs and demands for higher education opportunities in the region.

WHAT IS YOUR CONNECTION TO THE NOBLE FOUNDATION?

The University Center is a current and past grant recipient. Through a matching grant from the Noble Foundation decades ago, an endowment was established that funds maintenance costs for our existing and future facilities. Over the years, the Noble Foundation has provided grants that allowed us to upgrade our technology resources. The University Center is a current recipient of a grant to help fund construction of a new facility.

WHAT IS THE PURPOSE OF THE GRANT YOU RECEIVED?

The grant we received from the Noble Foundation will go toward building a Health, Science and Math Center, which will be the first phase of a new college campus in Ardmore, Oklahoma. This facility will provide a permanent home for the Bachelor of Science in Nursing program, doubling the number of science labs avail-

able which will facilitate the expansion of science course offerings that are prerequisites for admission into the program.

HOW WILL THIS GRANT BENEFIT STUDENTS?

The nursing program currently admits its maximum capacity of students each year. New and permanent facilities will permit the student capacity of the nursing program to increase and enlarge the qualified applicant pool for nursing.

WHY IS IT IMPORTANT TO SUPPORT THE NURSING PROGRAM?

There is currently a shortage of nurses to fill the existing demand by the health care community in southern Oklahoma and nationwide. With the expansion of the regional hospital and other health care services in southern Oklahoma, the demand for nurses has amplified and the shortage is compounded. The establishment of a facility will help alleviate this shortage.

WHAT IMPACT DOES THE NOBLE FOUNDATION HAVE ON LOCAL GRANT REQUESTS?

The prestige of receiving a grant from the Noble Foundation makes it possible to leverage that funding to other granting institutions as well as to the local business community.

WHAT WOULD HAPPEN TO YOUR ORGANIZATION WITHOUT GRANTING INSTITUTIONS LIKE THE NOBLE FOUNDATION?

The generosity of the Noble Foundation and other granting institutions makes it possible for us to grow and maintain programs and facilities, and provide quality higher education opportunities for this region. State funding continues to be cut and now provides less than half of our operating budget and supplies no funding for equipment and capital improvements. Without external funding from the Noble Foundation and other granting and business organizations, we would remain stuck in the status quo with little hope for growth and improvement. We would have little chance to address the changing and increasing needs for quality higher education programming in southern Oklahoma.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?

The Noble Foundation means opportunity - the opportunity for organizations and institutions like us to move beyond the ordinary and achieve the extraordinary.

WHAT'S THE ONE THING YOU WANT PEOPLE TO KNOW ABOUT THE NOBLE FOUNDATION?

The Noble Foundation listens. They will give good ideas thorough consideration, and, through this vetting process, your good idea will take form and become a strategy, an innovation, a solution.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Ally.



THE AG TEACHER

Derek Mitchell

Agricultural Education Instructor and FFA Advisor for Marlow Public School District

Age: 32
Hometown: Empire, Oklahoma

WHAT IS YOUR CONNECTION TO THE NOBLE FOUNDATION?
I received a Sam Noble Scholarship from 2000-2004.

HOW DID RECEIVING A SAM NOBLE SCHOLARSHIP IMPACT YOUR LIFE?
Receiving this scholarship allowed me to attend Oklahoma State University (OSU) for four years - something I would not have financially been able to do without it. My parents owned a small pallet manufacturing business in Empire, Oklahoma, and were insistent that I pursue a college degree after high school. Looking back now, I am not sure they ever dreamed I would get an opportunity to attend OSU.

WHAT DOES BEING AN AGRICULTURAL TEACHER MEAN TO YOU?
Being an agricultural teacher was all I ever wanted to do growing up, and I am living out my wildest dreams. I have been fortunate to have great students at both Marlow and Chattanooga, Oklahoma, and I am raising two girls who cannot wait to wear blue

and gold jackets of their own. I'll bet I have the only daughter who said she wanted to be an agricultural teacher when she grows up at the pre-K promotion program. And I can honestly say that the generosity of the Noble Foundation and this scholarship allowed all these great things to happen to me.

WHAT WOULD YOU HAVE DONE HAD YOU NOT RECEIVED SAM NOBLE SCHOLARSHIP?
I would have attended college, I'm sure, but I probably would be building pallets in Empire. Besides teaching agriculture, working in the family business is all I ever wanted to do.

HOW DIFFERENT WOULD YOUR LIFE BE IF YOU HAD NOT RECEIVED THE SCHOLARSHIP?
I can't imagine what things would be like had I not received the scholarship and attended OSU. My family would be different. My job would be different. My whole perspective would be different.

HOW IMPORTANT IS IT TO EDUCATE THE NEXT GENERATION ABOUT THE IMPORTANCE OF AGRICULTURE?
I am not from a production agriculture family, so my love for the field of agriculture and appreciation towards those

involved was instilled in me by my agriculture teacher. Agriculture is a career that will always be in demand and affects every human. I try to instill those same ideas into my students.

WHAT PRINCIPLES DO YOU HOPE TO INSTILL IN YOUR STUDENTS?
Honesty, integrity, generosity, becoming a lifelong learner, professionalism and that there is good inside of every person - sometimes it just takes a while to find it.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?
I owe so much to the Noble Foundation. It has allowed me to receive an education and live out my lifelong dreams. So I guess I could say everything.

WHAT'S THE ONE THING YOU WANT PEOPLE TO KNOW ABOUT THE NOBLE FOUNDATION?
The Noble Foundation is a first-class organization that continually strives to improve the lives of students, producers and countless others.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:
Quality.



THE RANGELAND SCIENTIST

Corey Moffet

Assistant Professor

Years of service: 3

Hometown: Kerrville, Texas

WHAT IS THE FOCUS OF YOUR RESEARCH AT THE NOBLE FOUNDATION?

I am primarily interested in understanding the effects various management activities have on rangelands. For example, what effect does patch burning and grazing have on the plant species composition and productivity in a crosstimbers rangeland system? While conducting research in this area, I have also become interested in the technologies that enable rangeland scientists to better measure how cattle utilize the landscape and how the vegetation responds.

WHAT TECHNOLOGIES ARE SHAPING APPLIED RESEARCH?

We use Global Positioning System (GPS) collars to characterize cattle utilization patterns. We also have a rising plate meter, forage sled and sonar technologies to estimate forage mass, and we are using remote sensing to characterize vegetation.

HOW DOES APPLIED AGRICULTURAL RESEARCH IMPACT PRODUCERS?

Producers benefit from the results of applied agricultural research by implementing new practices that have been tested against conventional practices. We go through the trial-and-error process for them, saving them time and resources.

WHAT OTHER APPLIED TOPICS IS THE NOBLE FOUNDATION RESEARCHING?

The agricultural research team currently has three applied research programs: (1) forage-based beef cattle production, (2) range ecology and (3) pecan management. Each of these has multiple studies to improve management practices for producers.

WHAT ADVANTAGES ARE THERE TO HAVING FUNDAMENTAL, TRANSLATIONAL AND APPLIED RESEARCH ON THE SAME CAMPUS?

I think there is a bit of genius in the idea of having them all together, not only on the same campus, but actively working together. The challenges for agriculture are significant, and the solutions will require each group to get as deep into their respective fields of study as possible, while at the same time not losing track of the big picture.

WHAT ROLE IS TECHNOLOGY GOING TO PLAY IN THE FUTURE OF AGRICULTURE?

Technology has great potential to deliver information to farmers and ranchers, particularly about the state of their resources. The challenge will be to build applications that use this data to glean actionable information from the quagmire of information overload so that the benefit can be realized.

WHAT IS THE AVERAGE FARM GOING TO LOOK LIKE IN 50 YEARS?

The fundamentals of future farms and ranches will be the same as today. Agricultural producers will work the land, capturing the sun's energy with plants to satisfy the world's increasing demand for food

and fiber. To do so, agriculture will adopt any technology that will do that more efficiently than the current practices. I believe one area where we will see change is the role of farm or ranch data to aid decision-making. Sensor technologies continue to get smaller, cheaper and more useful for sensing the data important to agriculture.

WHAT IS A SPECIFIC EXAMPLE OF THESE SENSOR TECHNOLOGIES?

Unmanned aerial vehicles will soon share the national airspace with manned aircraft, making regular deployment of sensors and other payloads more feasible than before. Public data sets are becoming more easily accessible as well. Finally, analytical tools are available to begin thinking about wrapping all these concepts together. Noble is doing just that with a new project under development called SmartRanch.

WHAT IS SMARTRANCH?

SmartRanch will wade through the abundant data that is and will be available, and use it to make calculations that ultimately deliver actionable information to ranchers. This information will help them make customized decisions for their operation and ultimately benefit the consumer.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?

The Noble Foundation has a grand vision and the wherewithal to see it through.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Unique.



THE COMMUNITY PARTNER

André Moore

Executive Director for Mercy Health Foundation Ardmore

Age: 64
Hometown: Minden, Louisiana

WHAT IS YOUR CONNECTION TO THE NOBLE FOUNDATION?

The Noble Foundation has supported several Mercy Hospital Ardmore projects, from grants and construction of the new patient tower to the “Noble in the Community” program, which organizes employees to support community activities. In our case, Team Noble played a significant role in the Ardmore to Arbuckles (A2A) Race for Mercy, with all proceeds benefiting the Mercy Cancer Center.

HOW HAS THE NOBLE IN THE COMMUNITY PROGRAM IMPACTED YOUR EVENT?

When your activity or event gets involved with “Noble in the Community,” you are in for a real treat. All of a sudden, you have this swarm of Noble employees wearing these green shirts that say “Team Noble.” They are everywhere. For A2A, Team Noble has played an integral part since its inception. They serve as volunteers for every facet of the race, from event assembly and dismantling to registration, as well as creating boisterous water stops and handling many other demands.

HOW HAS ROBBIE BROOKS’ LEGACY IMPACTED THE RACE?

The late Robbie Brooks, who served as controller in the Noble Foundation Accounting Department, was an avid runner. She was a spark plug. She energized our race with great enthusiasm. She led and motivated countless volunteers at Noble and in the community. Her smile was infectious, and the love she had for the A2A was genuinely from her heart. The 5K Run that kicks off the race is named “Robbie’s Run” in her memory.

WHAT IMPACT DOES IT HAVE ON THE COMMUNITY?

The A2A has brought members of the community together, with more than 600 volunteering annually. The race averages 1,200 runners and has attracted participants from over 30 states and six countries. This event has become a highlight for Ardmore.

WHAT WOULD YOU LIKE TO SAY TO THE “NOBLE IN THE COMMUNITY” VOLUNTEERS?

Your hard work and support of the A2A not only makes this a better community, but it is literally changing lives by providing a quality cancer treatment center in southern Oklahoma. Without the Noble Foundation’s financial and volunteer support, it would have been very difficult to construct a state-of-the-art medical facility like we

now have, which means victims of this disease would have to travel great distances to receive treatment.

HOW WOULD THE SOUTHERN OKLAHOMA COMMUNITY BE DIFFERENT WITHOUT THE NOBLE FOUNDATION?

The Noble Foundation fosters the visions and innovations of a big city environment into the personality of a small town. Because of Noble, I feel Ardmore has been and continues to be progressively minded. All parts of our community benefit from Noble’s presence through job creation, cultural diversity, active research, educational emphasis, and attracting other progressively minded individuals and companies to the region.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?

The Noble Foundation makes me proud to call Ardmore my home. Noble is a stakeholder in our community and is known worldwide for its research and innovations.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Advocate.



THE ALUMNUS

Jeremy Murray

Scientific Project Leader at John Innes Centre

Age: 42

Hometown: Robinsonville,
New Brunswick, Canada

WHAT IS YOUR CONNECTION TO THE NOBLE FOUNDATION?

I served four years as a postdoctoral fellow at the Noble Foundation.

WHAT IS A POSTDOCTORAL FELLOW?

A postdoctoral fellow or “postdoc” is someone who has earned their doctoral degree in a specific field of study, then goes to a research institution or university for a few years to gain valuable research experience. They are directly involved in experimental work under the supervision of a project leader. Think of it as a medical resident who is a doctor but is still being mentored and trained.

WHAT DID YOUR RESEARCH FOCUS ON WHILE YOU WERE HERE?

I worked on symbiosis genetics. I was trying to identify genes that are needed for the formation of nodules in *Medicago truncatula*. These nodules help legumes turn atmospheric nitrogen into its own form of fertilizer. This is a natural process that can advance agriculture.

HOW DID YOUR TIME AT NOBLE PREPARE YOU FOR YOUR CAREER?

My years at Noble were a formative time for me. It was my second postdoc stay, which

for many people is the time when you are preparing to become an independent project leader. The freedom I was given and the plentiful resources available were just what I needed during this transition phase.

WHAT WAS THE BEST THING ABOUT BEING A POSTDOC AT THE NOBLE FOUNDATION?

It’s a fantastic place to work. The facilities, like the laboratories and greenhouses, are world class, but the greatest resource of all is the excellent people. You can have all the specialized equipment in the world, but it won’t get you anywhere unless you have the staff to support it.

HOW DID YOU FEEL ABOUT THE MENTORSHIP YOU RECEIVED?

Working with Michael Udvardi (Director of the Plant Biology Division) was great. He gave me the autonomy I desired at that point in my career but was there with ideas and support when I needed it. From Michael I learned to “think big”, which has influenced me quite a bit.

BEST PIECE OF ADVICE YOU WERE GIVEN?

Work on science that excites you. You’ll stay motivated and do better science.

HOW DID YOUR FIRST POSTDOC POSITION COMPARE TO YOUR NOBLE EXPERIENCE?

My first postdoc was with Dr. Krzysztof Szczygłowski’s laboratory in Canada. It was there I learned a lot of the ins and outs of working with legume model systems.

Krzysztof was directly engaged in my work on a daily basis, while Michael was more hands-off. Under Michael, I transitioned from thinking about science at just the experimental level, as a postdoc must, to considering what it takes to run a research program. Looking back, I can see that each experience was just what I needed at those stages of my career.

WHAT WOULD YOU SAY TO FUTURE POSTDOCS WHO ARE CONSIDERING APPLYING AT THE NOBLE FOUNDATION?

I would tell them to go for it. It’s a great place to go to conduct research and build a career.

HOW DID THE NOBLE FOUNDATION IMPACT YOUR CAREER?

The work I did at the Noble Foundation led to a scientific discovery that served as the basis of my successful application for a David Phillips Fellowship, which I took up at the John Innes Centre. Running my own lab in such a great environment has been a dream come true and opens all sorts of future possibilities.

HOW DID THE NOBLE FOUNDATION IMPACT YOUR LIFE?

I met my wife there, so the Noble Foundation has contributed to my personal life as well as my career. I also made a lot of good friends there and had lots of memorable experiences.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Great!



THE VIROLOGIST

Rick Nelson

Professor and Research Administrator

Years of service: 25

Hometown: Ferguson, Missouri

WHAT IS YOUR ROLE AT THE NOBLE FOUNDATION?

I conduct basic and applied research that focuses on plant-virus interactions. I also administer the Noble Foundation core facilities (analytical chemistry, cellular imaging, genomics, transformation, greenhouse, forage analysis, and molecular and biological materials), facilitate intellectual property development and oversee the Noble Foundation portion (funding for five principal investigators) of the Department of Energy grant associated with the Bio-Energy Science Center.

HOW DO YOU EXPLAIN YOUR RESEARCH TO STRANGERS?

I study plant viruses to understand how they accumulate and spread to cause disease. My laboratory uses this information to devise ways to prevent this. We also use this information to create new uses for viruses for the production of better crops.

WHAT DO YOU SAY TO PEOPLE WHO ARE AFRAID OF VIRUSES?

Don't categorize all viruses as dangerous, just as it is important not to categorize all snakes as dangerous. There are different viruses, some that are dangerous to humans or other hosts, and some that are not. Viruses that infect plants have been ingested by humans for longer than any

of us have lived and do not pose a risk that we haven't already survived. In some instances, viruses (plant or animal) actually have a good effect on their host, causing a response that "toughens up" the host to defend itself.

WHAT ARE THE FOCUSES OF FUNDAMENTAL RESEARCH AT NOBLE?

Our fundamental research is directed toward obtaining greater understanding of basic plant physiological and plant-microbe interaction processes to create tools (e.g., computer databases, plant analysis systems) and new varieties that aid producers and consumers. This includes understanding mechanisms that may lead to enhanced plant nutrient and water use or enhanced plant-microbe interactions. An example of fundamental research in my group is our quest to understand how viruses move within a cell. By understanding this activity, we can devise methods to prevent virus-induced disease since the appearance of disease, in this instance, depends on the movement of a virus within and between cells.

WHAT IS THE ADVANTAGE OF HAVING TRANSLATIONAL, APPLIED AND FUNDAMENTAL SCIENTISTS TOGETHER?

Fundamental research on plants can only identify activities with potential for application. In some instances, it is only one step away from application. In other instances, the procedures are more complicated and take years to implement. Not all basic findings translate to an improved commercial variety. This work requires researchers who can take a basic finding and

apply it to an important crop, both producing an improved crop variety and evaluating the new variety to be sure that the modifications work as expected according to the conclusions from the basic studies. Having all three components here gives us the rare ability to move discovery-based science from the laboratory to the field.

WHAT WILL BE THE NEXT BIG BREAKTHROUGH IN PLANT SCIENCE ?

Right now, we know that many agriculturally significant traits in plants (e.g., drought tolerance) require the interaction of multiple genes. Soon, I believe we will be able to trace metabolic pathways and protein interactions to identify all the genes associated with a trait and then modify them simultaneously to more quickly and effectively create improved varieties.

HOW DOES NOBLE FOUNDATION RESEARCH IMPACT SUSTAINABILITY?

We are pursuing research that creates plants requiring fewer nutrient and water inputs, and possessing greater resistance to pathogens. These plants will require less fertilizer, water and chemical sprays.

WHAT'S THE ONE THING YOU WANT PEOPLE TO KNOW ABOUT THE NOBLE FOUNDATION?

We impact agriculture across the entire spectrum: from fundamental research to production.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Agriculture.



THE SCHOLAR

Jeff Neyhart

Undergraduate at Cornell University

Age: 22

Major: Plant Science

Hometown: Farmingdale, New Jersey

WHAT IS YOUR CONNECTION TO THE NOBLE FOUNDATION?

I was a Summer Research Scholar during the summer of 2012.

WHAT DID YOU DO AS A SUMMER RESEARCH SCHOLAR?

I actually conducted my own research project in the mycology lab of Principal Investigator Kelly Craven, Ph.D. My project was focused on isolating a native strain of an endophyte - an organism that lives within plants and confers benefits to the plants with which it is associated.

WHAT WAS IT LIKE TO CONDUCT YOUR OWN RESEARCH PROJECT?

As difficult as it is (especially in science) to complete something in a summer, I was pretty contented with my project. I didn't feel like I was just another free hand in the laboratory. I was a team member, not an intern. I was allowed a good amount of autonomy; if I was curious or interested in looking into something, I was usually able to do so. Although the project was planned, I never felt restricted.

HOW WAS THE RESEARCH SCHOLARS

PROGRAM DIFFERENT FROM OTHER INTERNSHIPS YOU'VE EXPERIENCED?

I was much more involved in the direction of the assigned project. I was given a greater voice than in other positions I have been in or internships my friends have experienced. The distance from home and the novelty of new surroundings made my experience unique and enjoyable.

HOW HAVE YOU USED THE SKILLS THAT YOU LEARNED AT THE NOBLE FOUNDATION WITHIN THE LAST YEAR?

Most of the molecular biology skills that I learned have been applicable to my undergraduate project at Cornell. The Noble Foundation also provided presentation training to all the scholars, which I used during my last internship and in some of my classes this year.

WHAT IMPACT HAS THE NOBLE INTERNSHIP HAD ON YOUR FUTURE PLANS?

I think the biggest impact was the push I received to continue my education and pursue a graduate degree. My project wasn't necessarily related to my primary interests, but it provided me with the opportunity to work on a subject that I probably would never have explored otherwise. It truly broadened my thinking.

WHAT OTHER EXPERIENCES DID YOU HAVE AT THE NOBLE FOUNDATION?

I had the opportunity to network with other researchers in other labs. In fact, I was able to secure my next internship

from the connections I made at the Noble Foundation. On the personal side, I was able to spend time with other research and agricultural scholars from around the country. I also played in the Noble Foundation's annual Parkway Series softball tournament, which was very enjoyable.

WHAT DO YOU WANT TO BE WHEN YOU FINISH SCHOOL?

After graduate school, I'd like to continue in a scientific career as a plant breeder.

WHAT WOULD YOU SAY TO OTHER STUDENTS WHO MIGHT CONSIDER APPLYING FOR A SUMMER RESEARCH SCHOLAR POSITION?

Absolutely do it. When I decided to go to the Noble Foundation, I was also seriously considering an internship with a major seed company. I am undoubtedly sure that I made the right choice. There are few other places where one can have an experience similar to that at Noble. After all, they must be doing something right to convince a kid from New Jersey to spend a summer in Oklahoma.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?

It is not only a center of excellent research and outreach but also like my second home.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Home.



THE MASTER TECHNICIAN

Billy Phelps

Communications and Collaborative Technology Coordinator

Years of Service: 13

Hometown: Verden, Oklahoma

WHAT IS YOUR ROLE AT THE NOBLE FOUNDATION?

Working through our Computer Services (CS) Department, I support the phone and computer networks of the organization and many of the other technology efforts. Some days I'm rewiring a building. Some days I'm working on phone issues.

WHAT DOES THE CS GROUP DO FOR THE NOBLE FOUNDATION?

The CS group offers a full slate of services from support for desktop computers and computing infrastructure to programming solutions and bioinformatics support. We are just one of the administrative groups that offer necessary services to keep the consultation and research programs at the Noble Foundation moving.

HOW DO THE ADMINISTRATIVE GROUPS ADVANCE THE MISSION OF THE NOBLE FOUNDATION?

The Noble Foundation has the best support staff I have ever been associated with.

They are talented, dedicated people who take pride in serving. They advance the mission by being the team players who set the stage for the researchers, scientists and consultants. For example, we have an external funding administrator who administers all the grants received. We have a communications team that handles everything from photography and meeting setups to building PowerPoint presentations and posters. At other research organizations, researchers often have to spend valuable time away from their projects handling these duties. At the Noble Foundation, we try to take these duties off of them so they can focus on what they do best.

WHAT ASPECT OF YOUR JOB ARE YOU MOST PROUD OF?

I'm proud of the people I work with. They come from all over the world to southern Oklahoma for a common cause - to advance agriculture. I'm proud of them, and I'm proud to serve them. It's my honor to help.

WHAT DO YOU THINK LLOYD NOBLE WOULD SAY ABOUT TODAY'S NOBLE FOUNDATION?

I think he would say that the Noble Foundation is staffed by the best employees in the world. He would be amazed at

how we've grown from a regional organization into an international one. I believe - most of all - he would be proud that we remain focused on our mission of safeguarding the soil, supporting agricultural producers, fostering land stewardship, conducting invaluable research and providing granting support to worthy organizations. He designed us to benefit mankind, and we're still doing that today.

WHAT ROLE DO CORE VALUES PLAY AT THE NOBLE FOUNDATION?

Core values are apparent by just looking around at the great jobs done by each employee. We display integrity and accountability every day. We work to have open communication and maintain a safe workplace (only three reportable accidents in 2013). And the organization is constantly striving to provide employee development opportunities. We live our core values.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

I'm sticking with the word that's right there in our name: Noble. It is our founder's family name, but it also means righteous, virtuous, good, honorable, upright and reputable. Yes, Noble says it all.



THE RESEARCHER IN THE FIELD

Dusty Pittman

Research Associate

Years of Service: 10
Hometown: Ardmore, Oklahoma

WHAT ROLE DO YOU PLAY AT THE NOBLE FOUNDATION?

I am a research associate in the Forage Improvement Division. I help support and maintain the forage breeding program.

WHAT DOES AN AGRICULTURAL RESEARCH ASSOCIATE DO?

A lot of what I do involves collecting data (measurements of height, weight, etc.) from the plants in the field and greenhouse trials. As research associates, we maintain the greenhouse and field trials to ensure that the researchers we are supporting get accurate information. We also help manage the data we collect.

HOW DOES FIELD RESEARCH COMPARE TO RESEARCH IN A LABORATORY?

Unlike laboratories where you can replicate experiments virtually any time, you only have one shot, one growing season, when conducting field research. From spring to fall, we focus on planting dates, harvest dates, data collection and constant maintenance. Field activity quiets in the winter months, allowing us to catch up on seed

cleaning and start new projects for the upcoming season.

WHY IS IT IMPORTANT TO DEVELOP MANAGEMENT PLANS FOR NEW VARIETIES?

Developing new varieties of forage crops is only part of the process at the Noble Foundation. You don't just breed these new varieties and send them to the market. Management plans are like the "how to" instruction guide for getting the most out of these new forages. Our work helps develop the guidelines for achieving optimal performance.

WHAT ARE THE CHALLENGES YOU FACE IN DEVELOPING SMALL AND LARGE PLOT TESTS?

Keeping up with Mother Nature is the biggest challenge. The environmental variables play a huge factor in maintaining field tests. We deal with pests, wind, ice and drought. The trials need intensive management for making proper selections, and the weather doesn't always make that easy. But that's part of the job, and we love it.

HOW HAS TECHNOLOGY IMPACTED YOUR WORK?

Hand-held computers have revolutionized field research. We collect data using hand-held computers and transfer this data

directly from the field to a centralized system. This simple technology increases the efficiency and decreases the error associated with transferring the data by hand.

WHAT ASPECT OF YOUR JOB ARE YOU MOST PROUD OF?

I love knowing that the forages we are improving will eventually help farmers and ranchers become more productive and lead more successful lives for not only themselves but future generations.

WHY IS SUSTAINABILITY IMPORTANT TO MODERN AGRICULTURE?

Natural resources are finite. Sustainable agricultural systems allow the producer and consumer to have the best possible product with the lowest possible input cost and lowest cost to the environment.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?

I have grown so much in my career here at the Noble Foundation over the past 10 years. I have learned more than I ever thought possible. The Noble Foundation is a huge part of my life, and I am so fortunate to be a part of this organization.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Agriculture.



THE DISEASE FIGHTER

Clemencia Rojas

Research Scientist

Years of service: 6

Hometown: Bogotá, Colombia

HOW DO YOU EXPLAIN YOUR RESEARCH TO SOMEONE YOU JUST MET?

Plants get sick just as humans and animals do. Similar to humans and animals, plants have an immune system that is activated when they detect the threat of potential pathogens. Some plants are able to fight off pathogens and therefore are resistant to infection, while others are susceptible and die. I am investigating those plants that are able to fight back. I search for genes that confer that resistance to pathogens with the ultimate goal of transferring those genes to crops of interest.

WHAT OUTCOMES DO YOU HOPE YOUR RESEARCH WILL HAVE?

The specific goals of my research are to understand at the molecular and cellular levels how plants respond to the challenge of bacterial pathogens. That basic knowledge is essential to breeding improved plants with traits such as resistance to diseases which account for significant losses in crops. That knowledge can be used for the improvement of economically important crops useful in the Southern Great Plains and similar ecological zones around the world.

HOW HAS THE NOBLE FOUNDATION FOSTERED YOUR CAREER?

The Noble Foundation provides an amaz-

ing infrastructure with resources and core facilities that have allowed me to conduct cutting-edge research and make significant progress in my research in a relatively short time. The Noble Foundation provides an intellectually stimulating environment through internal seminars and invited speakers, and everyone is available to openly discuss ideas or troubleshoot technical problems. The Noble Foundation has also sponsored national and international travel to meetings where I have presented my research and networked with top scientists in my field. Furthermore, I have acquired experience writing grant applications, which is essential to a successful career in science.

WHAT ADVANTAGES DOES THE NOBLE FOUNDATION OFFER FOR RESEARCH SCIENTISTS?

Based on my experience, we have a lot of freedom to pursue different avenues to answer our research questions and, in doing so, we acquire broader training that enhances our chances when we seek future job opportunities.

DESCRIBE THE TEACHING/LEARNING OPPORTUNITIES AVAILABLE FOR RESEARCH SCIENTISTS?

Formal teaching opportunities for post-docs and research scientists are available almost exclusively in the form of individual lectures at local and state universities as invited guest speakers. Teaching experience can also be acquired through mentoring high school and undergraduate students through a mentorship program with the Southern Oklahoma Technology Center

and the Noble Summer Research Scholar program.

WHAT DOES THE FUTURE OF PLANT SCIENCE RESEARCH LOOK LIKE?

In the last two decades, plant science research has advanced at a fast pace because we have information regarding entire plant genomes, how genes within those genomes respond to environmental conditions and how that is translated into particular plant features. Plant scientists have started to integrate all that information, and I hope that this integration will result in useful outcomes to solve pressing world problems related to increasing human population, such as food security, nutrition and preservation of natural resources.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?

Without a doubt, the Noble Foundation is the best place I have worked. The resources are better than anywhere else I have been. The employees are extremely motivated, helpful and friendly. My colleagues are professional and engaged. I work in a lab where we hold ourselves to high standards while maintaining a friendly atmosphere. Lastly, my supervisor, Kiran Mysore, Ph.D., is an outstanding scientist who has given me independence to conduct my research and has provided me with unconditional support and mentorship.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Inspiring.



THE MODERN MENDEL

Malay Saha

Associate Professor

Years of Service: 12

Hometown: Tangail, Bangladesh

WHAT IS YOUR ROLE AT THE NOBLE FOUNDATION?

I lead the grass molecular marker research laboratory in the Forage Improvement Division.

HOW DO YOU EXPLAIN YOUR RESEARCH TO SOMEONE YOU JUST MET?

I help grass breeders breed better grass varieties by providing a molecular toolbox that helps them identify the traits they are most interested in. Imagine the genome of a plant as a highway. Certain stretches of that highway are genes that control traits such as drought tolerance that are important to agriculture. I'm the guy who places the mile markers that show where those valuable traits are so the breeders can target them and improve the crop.

WHAT OUTCOMES DO YOU HOPE YOUR RESEARCH WILL HAVE?

By working together, my group and the breeders can create forage grasses to have higher yields, improved digestibility and tolerance to stresses such as pests, drought, disease pathogens and more. Forage grasses with improved digestibility can help livestock gain weight more effectively. Persistence of perennial grasses in the region largely depends on their ability to survive hot and dry summer conditions.

All these qualities will ensure sustainable agricultural practices in the Southern Great Plains, which is the mission of the Noble Foundation.

WHAT ARE THE BIGGEST CHALLENGES FACING PLANT BREEDERS TODAY?

Translating the outcomes from genome research (which looks at all the genes within an organism) into tangible new varieties of crops is the biggest challenge of plant breeders today. Most of the traits essential for crop improvement (i.e., yield and tolerance to drought, salt, insects and diseases) are controlled by multiple genes. In addition, these genes have significant interactions with environmental factors which slow down the process of improving plants through genetic research.

IF YOU COULD MAGICALLY CREATE A TECHNOLOGY, WHAT WOULD IT BE?

Any technology that improved the yield of agricultural crops is my most desired piece of technology. The world population in 2050 will be 9 billion. To meet the needs of this huge population, agricultural production has to be increased substantially. Yield improvement is the key target of any plant breeding program, which is often a difficult and slow process to achieve.

WHAT PIECE OF ADVICE WOULD YOU GIVE TO YOUNG SCIENTISTS?

Scientists working today should strive to develop the products for tomorrow. Thus, you have to have a clear and achievable vision in order to lead a research program. Making a difference only requires the

vision and dedication to make that vision a reality.

WHAT'S THE MOST IMPORTANT LESSON YOU'VE LEARNED AS A RESEARCHER?

The single most important lesson I've ever learned is to have faith in yourself. Trust in your efforts, and they will be rewarded someday.

WHAT DOES THE FUTURE OF PLANT SCIENCE RESEARCH LOOK LIKE?

The future success of plant science research depends on the integration of research from the "omics" fields (genomics, proteomics, metabolomics, phenomics, etc.) and their translation into practical crop improvement programs. These fields, along with biotechnology, are promising tools for deciphering complex traits that will be required to improve crops and feed a burgeoning global population.

WHAT DOES THE NOBLE FOUNDATION MEAN TO YOU?

The Noble Foundation means more than just a plant science research institute. Lloyd Noble created this organization on the basis of giving, service and humility. The Foundation continues those principles today. So for me, the Noble Foundation is a place where hard work is being done to benefit mankind.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Compassion.



THE GLOBETROTTER

Anna Stehle

Working at Fulbright Commission in Brazil as an English Teaching Assistant at the Universidade Federal de Lavras

Age: 23

Hometown: Denver, Colorado

WHAT IS YOUR CONNECTION TO THE NOBLE FOUNDATION?

During the summer of 2013, I was selected for the Lloyd Noble Scholars in Agriculture program.

WHAT EXPERIENCES DID YOU HAVE AS A SCHOLAR?

The scholars program offers a variety of experiences, including working with the other scholars to provide real recommendations to regional farmers and ranchers. This was a meaningful experience because it underscored the importance of pursuing sustainable methods, setting attainable goals and utilizing cooperation in ranch management situations. In addition, working with wildlife management programs, such as trapping wild hogs and surveying the bobwhite quail population, demonstrated the essential task of actively managing the native ecology to protect the vitality of future agricultural production.

HOW HAS THE PROGRAM IMPACTED YOU?

During that summer, I developed strong mentorship connections while working with the agricultural consultants. These relationships positively impacted my professional growth both during and after the program. Having mentors from diverse

areas of expertise has helped strengthen my analytical skills and cultivated a holistic view of agriculture.

WHAT WOULD YOU SAY TO FUTURE SCHOLAR APPLICANTS?

Embrace the chance to explore different agricultural fields. While beef production may be the main focus, there are also opportunities to work with pecan research, horticultural projects and wildlife management programs, among many others.

WHY IS AGRICULTURAL EDUCATION SO IMPORTANT?

With 98 percent of Americans removed from the daily responsibilities of food production, agricultural education and communication is more important than ever. Education in the classroom, on farm visits and through social media is the only way to dismantle the confusion surrounding food production and build greater trust and respect between producers and consumers. It fosters future innovation and protects the hard work of today's farmers.

WHAT OTHER OPPORTUNITIES DID THE NOBLE FOUNDATION PROVIDE YOU?

A few months after completing the program, agricultural economics consultant Steve Swigert invited me to visit an agricultural project in Uganda. He consults on a sustainability project for Watoto Child Care Ministries, and for 10 days I visited the farms that feed over 2,500 children.

WHAT IS YOUR CURRENT LOCATION?

Since February I have been living in the

small city of Lavras in the southeastern state of Minas Gerais, Brazil, which produces about 50 percent of Brazil's coffee crop.

WHY ARE YOU THERE?

I am in Brazil for nine months because I was selected to participate in the U.S. Student Fulbright Program to work as an English Teaching Assistant (ETA) at a federal university. The Fulbright Program's mission is to promote international goodwill through the exchange of students in the fields of education, culture and science.

HOW DID THE NOBLE FOUNDATION IMPACT YOUR TIME ABROAD?

Working at the Noble Foundation helped me to develop a clearer direction for potential side projects that I could pursue during my time abroad. The Fulbright Program and the Noble Foundation both stress becoming involved in the surrounding community, and I am currently participating in a class for agricultural meteorology, as well as developing a side project to work with the farmers who sell produce at the weekly markets in Lavras.

WHY DO YOU WANT TO WORK IN INTERNATIONAL AGRICULTURE?

Agricultural development should be a top priority because it has the power to reduce poverty, improve public health, ensure global food security and protect diverse ecosystems, all at once.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Dynamic.



THE FIRE PHARMACIST

Russell Stevens

Wildlife and Range Consultant

Years of service: 25

Hometown: Overbrook, Oklahoma

WHAT IS YOUR ROLE AT THE NOBLE FOUNDATION AND IN THE BROADER AGRICULTURAL COMMUNITY?

As part of the Noble Foundation consultation team, I provide education and assistance to agricultural producers and land managers to help them achieve their production, financial and quality-of-life goals, while becoming better stewards of their resources. I also serve as the executive director of the Oklahoma Prescribed Burn Association (OPBA).

WHAT IS THE MISSION OF THE OPBA?

The OPBA promotes and protects the right of Oklahoma landowners to use prescribed fire as a safe, economical and effective land management practice by supporting member prescribed burn associations and individual landowners.

HOW DID THE NOBLE FOUNDATION GET INVOLVED WITH THE OPBA?

The Noble Foundation has long been an advocate of prescribed fire. The alignment of these goals made for a natural collaboration, with the Noble Foundation providing in-kind support to advance the OPBA's efforts. The Noble Foundation recognized that the OPBA is a good vehicle to help landowners successfully and safely use fire as a land management tool.

WHAT IS A PRESCRIBED BURN?

Prescribed (prescription) means creating a burn plan that addresses every issue associated with burning a particular place, including goals, acceptable weather parameters during and after the burn, notification of neighbors and local officials, equipment, labor, cleanup, and contingency planning. Prescribed burning is a process that usually requires at least one year of planning. Waking up one day and deciding to light a brush pile because the weather feels right does not constitute a prescribed burn.

HOW DOES FIRE IMPACT NATURE?

Fire is a natural process that plants and animals rely on. It is as natural as sunshine, rain and wind. It is a critical component of proper rangeland and forestland management such as controlling the invasive Eastern red-cedar trees. Prescribed fire provides a unique disturbance that keeps plant communities healthy, while also maintaining or improving plant diversity. This is critical to sustaining and optimizing forage production for livestock and habitat quality for wildlife.

WHY WOULD PEOPLE OPPOSE PRESCRIBED BURNING?

Opponents are usually afraid of fire, don't understand the process involved with prescribed burning, or say carbon is lost when burning woodlands and prairies. However, without fire, plants become less productive and accumulate in massive fuel loads conducive to wildfire. Research has shown that prescribed fire reduces carbon loss in wooded areas by mitigating the incidence

of wildfire that consumes carbon-storing mature trees. Additionally, grasslands remove carbon from the environment and store it beneath the ground as soil organic carbon. Burning grasslands results in more vibrant, fresh and actively growing plants that sequester even more carbon in the soil than if left unburned.

WHY IS IT IMPORTANT TO ADVOCATE FOR PRESCRIBED BURNING?

Perhaps one of the biggest reasons is reduction of wildfire occurrence. Prescribed burning removes several years or even decades worth of fuel (grasses, forbs and woody plants) accumulation that, when ignited under certain weather conditions, creates uncontrollable wildfires that put human lives at risk.

WHAT IS THE BIGGEST MISUNDERSTANDING ABOUT PRESCRIBED BURNING?

Burning brush or other debris piles is not prescribed burning. News reports often cite the cause of a wildfire as an escaped controlled burn. These escaped "controlled burns" almost always are a result of arson, careless smokers and burning of brush piles or accidental causes such as sparks from welding or mowing. None of these causes have a prescription. Only about 1.5 percent of prescribed or controlled burns escape. Of those that do, most are extinguished by the burn team in charge of the burn.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Altruism.



THE POSTDOC

Yuan Wang

Postdoctoral Fellow

Years of service: 3

Hometown: Weifang, China

WHAT IS YOUR ROLE AT THE NOBLE FOUNDATION?

I perform fundamental scientific research.

WHAT IS A POSTDOCTORAL FELLOW?

A postdoctoral fellow or “postdoc” is a professional researcher with a doctorate degree who conducts scientific research under the supervision of a mentor scientist. Postdocs seek to further improve their professional skills and prepare themselves for starting an independent scientific career in the near future.

HOW DO YOU EXPLAIN YOUR RESEARCH TO SOMEONE YOU JUST MET?

I’m working on a model plant for legumes. Model plants are typically plants that are easier to study than a target species. In my case, I’m using barrel medic (*Medicago truncatula*) to find out how genes regulate plant architecture in hopes of applying that work to alfalfa.

WHAT OUTCOMES DO YOU HOPE YOUR RESEARCH WILL HAVE FOR AGRICULTURE?

By altering plant architecture, I hope to provide a theoretical basis for improving

these crops and advancing sustainable agriculture.

HOW HAS THE NOBLE FOUNDATION FOSTERED YOUR CAREER?

The Noble Foundation provides a great academic environment, robust scientific support and sufficient research funding. All of these enable me to conduct efficient and productive research, and allow me to move quickly toward my career goal.

WHAT TEACHING OPPORTUNITIES ARE AVAILABLE FOR POSTDOCS AT NOBLE?

Teaching opportunities for postdocs include working with the neighboring Southern Oklahoma Technology Center to mentor young biotechnology students. The Noble Foundation also offers postdocs a chance to work one-on-one with a Summer Research Scholar, who is an undergraduate student who spends all summer conducting their own research project. It is a chance for that student to learn fundamentals and grow as a researcher. It is a chance for the postdoc to grow as a leader and teacher.

WHAT LEARNING OPPORTUNITIES ARE AVAILABLE FOR POSTDOCS AT THE NOBLE FOUNDATION?

There are a wealth of learning opportunities that focus on developing postdocs professionally and personally. Postdocs at the Noble Foundation have the opportunity to learn advanced language, writing, communication and presentation skills. We are also given opportunities to learn how

to write grant applications, and we’re provided plenty of networking opportunities.

WHAT IS THE MENTORSHIP LIKE FOR POSTDOCS AT THE NOBLE FOUNDATION?

My mentor certainly helps provide direction, but he remains open to my desire for research freedom.

COMPARE YOUR EXPERIENCE AT THE NOBLE FOUNDATION WITH OTHER POSTDOCTORAL FELLOWSHIPS.

The Noble Foundation has a more flexible academic environment. It is also not as stressful as previous experiences.

WHAT IS THE BEST PIECE OF ADVICE YOU’VE EVER BEEN GIVEN?

Change what you can change, and accept what you can’t.

WHAT IS THE BEST LESSON YOU HAVE LEARNED WHILE AT THE NOBLE FOUNDATION?

Good communication is as important as working hard.

WHERE DO YOU HOPE TO GO FROM HERE?

After my postdoc stay, I hope to return to China and work as a plant scientist, improving crops that can feed my country.

DESCRIBE THE NOBLE FOUNDATION IN ONE WORD:

Dedication.



Granting Report

THE SAMUEL ROBERTS NOBLE FOUNDATION

ORGANIZATION AND GRANT AMOUNT

Arbuckle Life Solutions, Inc. Ardmore, Okla. – Renewed operating support	\$30,000	Education and Employment Ministry, Inc. Oklahoma City, Okla. – Renewed operating support	\$10,000
Ashley, Inc. Havre de Grace, Md. – Capital Campaign	\$150,000	Pre-employment Assessment Kiosk for Job Placement Program	\$20,000
Association of Professional Oklahoma Educators Foundation Norman, Okla. – Renewed operating support	\$20,000	Family Shelter of Southern Oklahoma for Victims of Domestic Violence Ardmore, Okla. – Shelter Program and Shelter Advocate	\$40,000
Atlanta Union Mission Corporation Atlanta, Ga. – Program support	\$20,000	Friends of Sky Ranch, Inc. Dallas, Texas – Military family scholarships	\$10,000
Boy Scouts of America, Arbuckle Area Council Ardmore, Okla. – Operating support	\$15,000	Gloria Ainsworth Child Care & Learning Center, Inc. Ardmore, Okla. – Renewed operating support	\$40,000
Carter County CASA, Inc. Ardmore, Okla. – Renewed operating support	\$10,000	Good Shepherd Community Clinic Inc. Ardmore, Okla. – Pharmacy Program support for 2014	\$60,000
Charles B. Goddard Center for Visual and Performing Arts, Inc. Ardmore, Okla. – Renewed operating support and art education outreach program	\$30,000	Great Expectations Foundation Tahlequah, Okla. – Renewed operating support	\$15,000
Chisholm Trail Heritage Center Association Duncan, Okla. – Educational program support	\$10,000	Greater Ardmore Scholarship Foundation, Inc. Ardmore, Okla. – Distribution from the Pettitt Educational Fund	\$59,364
Cities In Schools, Inc. Ardmore, Okla. – 2014 Summer of service program	\$40,000	Hardy Murphy Coliseum Authority Ardmore, Okla. – Capital improvements	\$20,000
Colonial Williamsburg Foundation Williamsburg, Va. – 2013 Oklahoma Teacher Institute	\$10,000	Leadership Institute Arlington, Va. – Renewed operating support	\$5,000
Dean A. McGee Eye Institute Oklahoma City, Okla. – Vivarium renovation project	\$100,000	Leading The Way with Dr. Michael Youssef, Inc. Atlanta, Ga. – Support for KINGDOM SAT broadcasting	\$145,000
Diabetes Solutions - OK, Inc. Oklahoma City, Okla. – Support for Camp Endres	\$7,500	Little Hill Foundation for the Rehabilitation of Alcoholics, Inc. Blairstown, N.J. – Renovation of Family Hall	\$50,000

ORGANIZATION AND GRANT AMOUNT

Murray State College Foundation, Inc. Tishomingo, Okla. – Agriculture scholarships	\$5,000	Southern Oklahoma Higher Education Foundation, Inc. Ardmore, Okla. – Capital Campaign	\$150,000
Oklahoma Arts Institute Oklahoma City, Okla. – Support for Summer Arts Institute	\$7,500	Southern Oklahoma Technology Center Ardmore, Okla. – Scholarships	\$4,600
Oklahoma Blood Institute Oklahoma City, Okla. – Public umbilical cord bank	\$15,000	Southwestern Diabetic Foundation, Inc. Gainesville, Texas – Camp Sweeney septic system repairs	\$10,000
Oklahoma City Museum of Art Oklahoma City, Okla. – Projection Perfection	\$40,000	United Way of South Central Okla. Inc. Ardmore, Okla. – Match for employees contribution 2014	\$30,418
Oklahoma Council of Public Affairs, Inc. Oklahoma City, Okla. – Operating support for Project Harvest Initiative	\$40,000	Washington Legal Foundation Washington, D.C. – Renewed operating support	\$5,000
Oklahoma School of Science and Mathematics Foundation Oklahoma City, Okla. – Bridge Funding for salary supplements	\$15,000	YMCA Ardmore, Okla. – Renewed operating support	\$25,000
Oklahoma State University Foundation Stillwater, Okla. – Support for the Oklahoma Agricultural Leadership Program	\$20,000	EMPLOYEE MATCHING GRANTS AND SCHOLARSHIPS Employee Matching Grants To match dollar for dollar contributions made by employees and trustees of the Noble Foundation and employees of Noble Energy, Inc. and Noble Corporation to qualifying educational institutions \$308,017	
Agriculture scholarships	\$10,000	NOBLE EDUCATIONAL FUND SCHOLARSHIPS To provide a maximum of ten \$20,000 four-year awards to children of employees of Noble companies \$195,000	
Panhandle State Foundation Goodwell, Okla. – Agriculture scholarships	\$8,000	SAM NOBLE SCHOLARSHIPS To provide scholarships in the fields of agriculture and technology to southern Oklahoma students \$93,750	
Laboratory equipment	\$10,000	TOTAL GRANTS AWARDED AND PAID IN 2013 \$1,989,149	
Philanthropy Roundtable Washington, D.C. – Renewed operating support	\$10,000		
Reading Room, Inc. Ardmore, Okla. – Reading therapists' salaries	\$25,000		
Regional Food Bank of Okla., Inc. Oklahoma City, Okla. – Operating support	\$25,000		
Southeastern Legal Foundation, Inc. Marietta, Ga. – Operating support	\$20,000		



Financial Report

THE SAMUEL ROBERTS NOBLE FOUNDATION

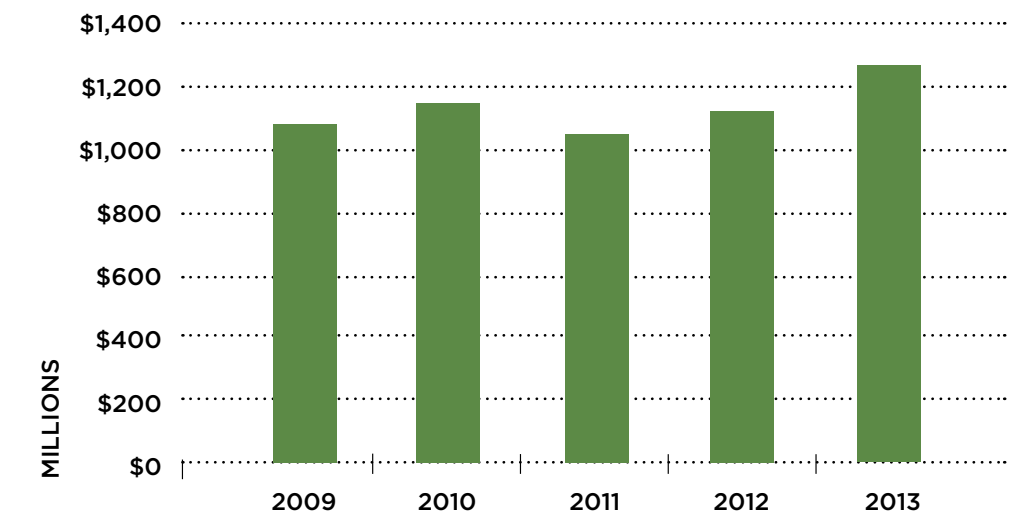
STATEMENTS OF FINANCIAL POSITION – DECEMBER 31

ASSETS	2013	2012
CURRENT ASSETS		
Cash	51,608	8,898
Short-term investments	8,617,603	8,334,632
Accrued interest and dividends receivable	993,021	1,104,143
Due from brokers for securities sold	610,132	793,551
Accounts receivable and other assets	1,760,625	1,956,249
Prepaid expenses	735,560	691,386
Limited partnerships	216,120,872	189,101,428
MARKETABLE SECURITIES, AT FAIR VALUE		
U.S. government securities	17,483,797	18,802,500
Corporate securities	55,921,502	64,018,046
Corporate stock	534,489,444	420,953,198
Mutual and commingled funds	273,774,822	259,368,559
Total marketable securities	881,669,565	763,142,303
TOTAL CURRENT ASSETS	1,110,558,986	965,132,590
Other investments	388,557	388,557
Property and equipment	207,222,902	205,329,991
Accumulated depreciation	(80,807,912)	(73,244,471)
Net property and equipment	126,414,990	132,085,520
TOTAL ASSETS	\$1,237,362,533	\$1,097,606,667

This information was derived from the Foundation's annual financial statements for 2013 which were audited by the independent accounting firm of Grant Thornton LLP. A complete picture of the Foundation's financial position and results of operations can only be obtained by reviewing the annual financial statements in their entirety. Please contact the Foundation office if you would like a copy of the complete financial statements.

LIABILITIES	2013	2012
CURRENT LIABILITIES		
Accounts payable and accrued expenses	4,834,272	4,893,990
Due to brokers for securities purchased	502,726	1,100,787
Grants payable, current	256,875	265,000
Notes payable, current	-	4,500,000
TOTAL CURRENT LIABILITIES	5,593,873	10,759,777
Grants payable, net of current portion	328,125	320,000
Liability for deferred taxes	7,000,000	-
Liability for pension and postretirement medical benefits	12,680,197	51,150,922
TOTAL LIABILITIES	25,602,195	62,230,699
NET ASSETS		
Unrestricted	1,209,436,056	1,033,293,087
Permanently restricted	2,324,282	2,082,881
TOTAL NET ASSETS	1,211,760,338	1,035,375,968
TOTAL LIABILITIES AND NET ASSETS	\$1,237,362,533	\$1,097,606,667

GROWTH IN TOTAL ASSETS

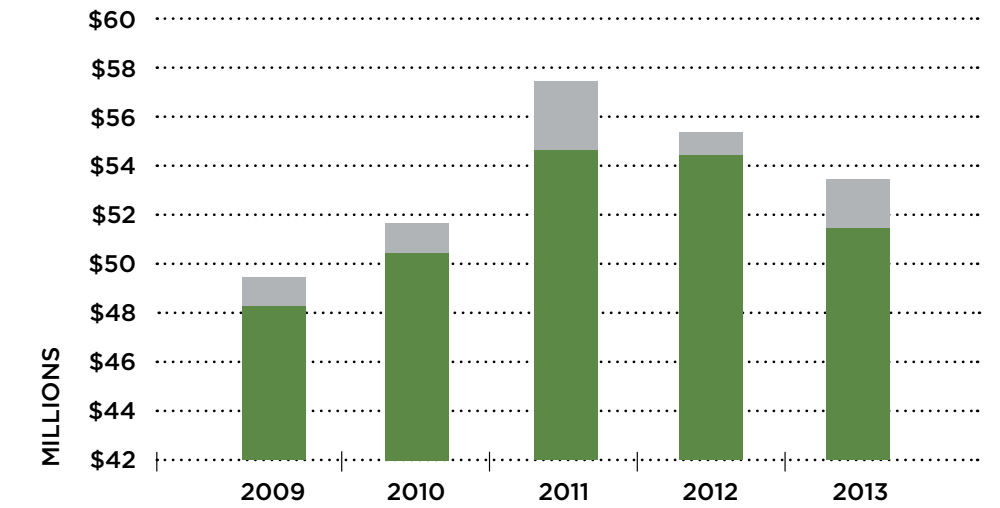


STATEMENTS OF ACTIVITIES – DECEMBER 31

	YEAR ENDED 2013	YEAR ENDED 2012
REVENUES, GAINS AND LOSSES		
Interest	3,053,218	3,486,824
Dividends	10,398,124	12,792,232
Net realized and unrealized (losses) gains on investments	183,078,826	101,722,935
Other miscellaneous program and royalty income	6,694,803	7,767,318
Total revenues, gains and losses	203,224,971	125,769,309
EXPENSES		
Operations (Agricultural, Plant Biology and Forage Improvement)	51,323,515	54,203,238
Grants	1,989,149	992,584
Management and administrative	7,881,093	7,535,306
Provision for federal excise taxes	8,126,026	809,448
Total expenses	69,319,783	63,540,576
Revenues, gains and losses in excess of expenses	133,905,188	62,228,733
Pension and postretirement medical-related changes other than net periodic costs	42,237,781	(3,014,817)
Change in unrestricted net assets	176,142,969	59,213,916
Change in permanently restricted net assets	241,401	159,278
Change in net assets	176,384,370	59,373,194
NET ASSETS, BEGINNING OF YEAR	\$1,035,375,968	\$976,002,774
NET ASSETS, END OF YEAR	\$1,211,760,338	\$1,035,375,968

OPERATING EXPENDITURES AND GRANTING

OPERATIONS
 GRANTS AND SCHOLARSHIPS





INSTITUTIONAL GOVERNANCE

The Noble Foundation Board of Trustees endeavors to have the highest standards of corporate governance practice and ethical conduct by all trustees and employees. Consistent with these intentions, the Board adopted the following Statement of Principles:

We, the Board of Trustees and the employees of The Samuel Roberts Noble Foundation, acknowledge and agree that the following principles apply to our association with the Noble Foundation and the activities we conduct on behalf of the Noble Foundation:

1. The Noble Foundation exists because of the vision and generosity of our founder, Lloyd Noble.
2. We are stewards of the resources and the vision of Lloyd Noble.
3. Our conduct will be fair and honest, and our activities will adhere to the purposes for which the Noble Foundation was established.

ROLE OF THE BOARD OF TRUSTEES

The Board charts the strategic direction of the institution, focuses the organization to carry out its charitable purposes, serves as stewards of the Noble Foundation's resources, and conducts and supports activities in accordance with the vision of Lloyd Noble.

The Board is responsible for the appointment and evaluation of the president and chief executive officer. The president and chief executive officer is responsible for the conduct of the day-to-day affairs of the organization. Moreover, this position is charged with implementing and executing operations to support the Board's strategy.

BOARD COMMITTEES

The Board includes five committees: Executive, Audit, Compensation, Investment and Strategic Planning.

INDEPENDENT PROFESSIONAL ADVICE

The Board, each Board committee and each trustee has the right to seek independent legal counsel and other professional advice, at the Noble Foundation's expense, concerning any aspect of the organization's operations or undertakings.

BOARD EDUCATION

The Board encourages each trustee to continue his or her education.

The Noble Foundation hosts seminars, programs and other events to assist in continuing trustee education. Each trustee also is encouraged to attend external educational programs that concern exempt organizations, corporate governance, grantmaking and administration as well as other programs relevant to the Noble Foundation's operations and research objectives.

CONFLICT OF INTEREST

The Board's Conflict of Interest Policy outlines a procedure to disclose, identify and address the potential intersection between external interests and the interests of the institution. The Board, in adopting such policy, acknowledges and agrees that each trustee must at all times act with transparency and in the best interest of the Noble Foundation.

BOARD EVALUATION

Each year, the Board completes a Board evaluation, and each Board committee completes a committee evaluation. The results of all evaluations are compiled and presented to the full Board for review and discussion.

"WHISTLEBLOWER" POLICY

The Board established a system for the confidential, anonymous submission of employee reports concerning any known or suspected violation of statutory, regulatory or internal requirements as well as questions or concerns regarding Foundation accounting, internal accounting controls or audit matters. This system further includes processes for the receipt, treatment and reporting (to the Board) of any such reports.

990-PF INFORMATIONAL RETURN

The Noble Foundation annually files a 990-PF informational return with the Internal Revenue Service. The Noble Foundation's current 990-PF may be downloaded at www.noble.org/about/governance. Historical returns for the Noble Foundation are available at www.guidestar.org.

ADDITIONAL GOVERNANCE INFORMATION

Noble Foundation governance information, including policies and procedures, may be found at www.noble.org/about/governance.

BOARD OF TRUSTEES

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* Advisory Trustee

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Teal Pemberton
Director of Human Resources

Zengyu Wang, Ph.D.
Interim Director, Forage Improvement Division

Mary Kate Wilson
Director of Philanthropy, Engagement and Project
Management

NONRESIDENT FELLOWS

The Nonresident Fellows program brings together a distinguished panel of scientists, researchers and industry leaders to assist the Noble Foundation's three operating divisions – Agricultural, Forage Improvement and Plant Biology - and the Department of Computing Services. These outside reviewers perform candid examinations of their division's programs, offer objective advice and guidance, and provide fresh perspectives.

AGRICULTURAL DIVISION

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Floyd P. Horn, Ph.D., *USDA-Agricultural Research Service (retired)*
Jimmy W. Kinder, *Kinder Farms*
Tom Woodward, Ph.D., *Woodward Cattle Company*

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FORAGE IMPROVEMENT DIVISION

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THE SAMUEL ROBERTS NOBLE FOUNDATION

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PINTEREST: pinterest.com/noblefoundation

YOUTUBE: youtube.com/thenoblefoundation

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Bill Buckner, President/CEO

J. Adam Calaway, Editor/Writer

Katie Brown, Graphic Design

Jackie Kelley, Copy Editor

Scott McNeill, Contributing Photo Editor

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Broderick Stearns, Contributing Photographer (pp. 8, 66, 70)

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Sarah Richardson, Financial Report

Mary Kate Wilson, Granting Report

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THE SAMUEL ROBERTS
NOBLE
FOUNDATION



Chance Johnson

