

LEGACY

SPRING 2015



Every meal served every
day comes from the
dedication of countless
farmers and ranchers.
Our food is ...

THE FRUITS OF THEIR LABOR

Producing food doesn't *just* happen.

It takes people. Farmers and ranchers who dedicate their lives to caring for the earth and its creatures. Building on the lessons learned generation to generation, they are always trying to make the good they do better. For the past 70 years, the Noble Foundation has bolstered each generation through research and consultation. Aiding their quest for progress – for their families, the land and the meal that ultimately ends up on our plates and theirs.

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THE SAMUEL ROBERTS
NOBLE
FOUNDATION

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ON THE COVER: Photographer Luke Braswell used Styrofoam and a fair share of dowel rods to construct this extra special hamburger. In the end, this hamburger shows that behind every meal are multiple farmers and ranchers who are dedicated to feeding the world.

Playground Education



At its core, a schoolyard playground is nothing more than a miniaturized training ground for life.

There in the concrete and plastic world outside of EveryTown Elementary, you receive your real education. Think about all the life lessons that you mastered somewhere between the monkey bars and the merry-go-round.

Dodgeball made you keenly aware that being the center of attention is not always a good thing. Bullies taught you that smarts and courage often win the day, but you still may end up with a black eye. And forming a squad of like-minded friends often led to capturing that elusive flag.

Among all the lessons, however, stands one fundamental truism: you make more friends by building people up instead of tearing them down.

Flash forward to adulthood, and I can't figure out how the agriculture industry forgot these simple playground lessons.

As I survey the landscape of agriculture today, I see a sector plagued by deconstruction, both from internal and external forces. Agriculture is more fractured now than at any time in my life, and it doesn't have to be.

Internally, agricultural producers spend tremendous amounts of time and energy arguing about which production style is superior. For some, it's a marketing ploy used to garner attention and sell their product at a higher premium. For others, questioning their production style is akin to attacking a family heritage. Adopting new practices, embracing change runs counterintuitive to generations of experience, so they lash out.

For me, the question is simple: are unyielding extremes worth the consequences to those we serve? As the world enters the most difficult era in recorded agricultural history with

unprecedented challenges, why are we arguing about which method to use? That's like arguing about your form while diving into an empty pool.

Compounding the internal strife are external factors; special interest groups, fringe environmentalists, the federal government and even celebrity chefs have all managed to interrupt the direct link between agricultural producers and consumers.

They have polluted the pipeline with toxic misinformation, twisting public perception to the point that agricultural producers are actually scorned by the people who they feed.

Consumers are told that hormones are the devil's elixir despite the fact these hormones do not pass into consumer products. They are told farmers are somehow big businesses because they had to incorporate the family farm to protect it for liability purposes. At the end of the day, this is nothing more than politics played by paid professionals.

For the most part, farmers and ranchers are committed to a cause rather than political activism. They depend on their trade or commodity associations to stir their interests into the political pot as best as possible. Agendas are plentiful as interests are elevated, diminished, combined and artificially connected.

The end result for our sector is a thousand voices talking; the outcome for the general public is frustration. They hear only the voices of extremists, and they are swayed by their arguments laced with emotion and fear. These extremists have not proven any point; rather, they have become a barrier to progress and pushed a sector closer to ideological gridlock.

Instead, let those of us in the vast middle ground lay down our arms. Let's start listening to each other and ignoring the naysayers. Let's start believing that we may not be completely right about every long-held thought. Let's collaborate and share ideas about processes and production systems that can benefit all and crush the historic practices of isolationism.

We won't agree on every topic, but I promise what unites us far outweighs what divides us. If you are in agriculture, know that you stand on the same side of the field, united under one noble banner.

Let us chart a reasoned course that combines the knowledge, skills and abilities honed through generations with a science-based approach that can provide a foundation of fact for making decisions. Unheralded challenges face agriculture in the next 40 years. Let our guiding light be well-reasoned, factual information and a spirit of cooperation.

It's time to focus on common ground. It's time to build each other up instead of tear each other down. It's time to remember what we learned on the playground.

Because we're not trying to capture a flag, we're trying to feed the world.

Sincerely,

Bill Buckner, President and Chief Executive Officer

Noble Spotlight



NOBLE RESEARCHERS REVOLUTIONIZE FERAL HOG CONTROL

The Noble Foundation signed a commercialization agreement to bring the BoarBuster trap system to consumers across the United States. The new trap will be exclusively manufactured and marketed by W-W Livestock Systems. BoarBuster is revolutionary in its design.

The trapping system capitalizes on a rigid enclosure that is operationally elevated above a trap site and live-streaming video that enables users to capture complete groups of feral hogs (per drop). BoarBuster will be available mid-summer 2015.



For more information, visit
boarbuster.com.



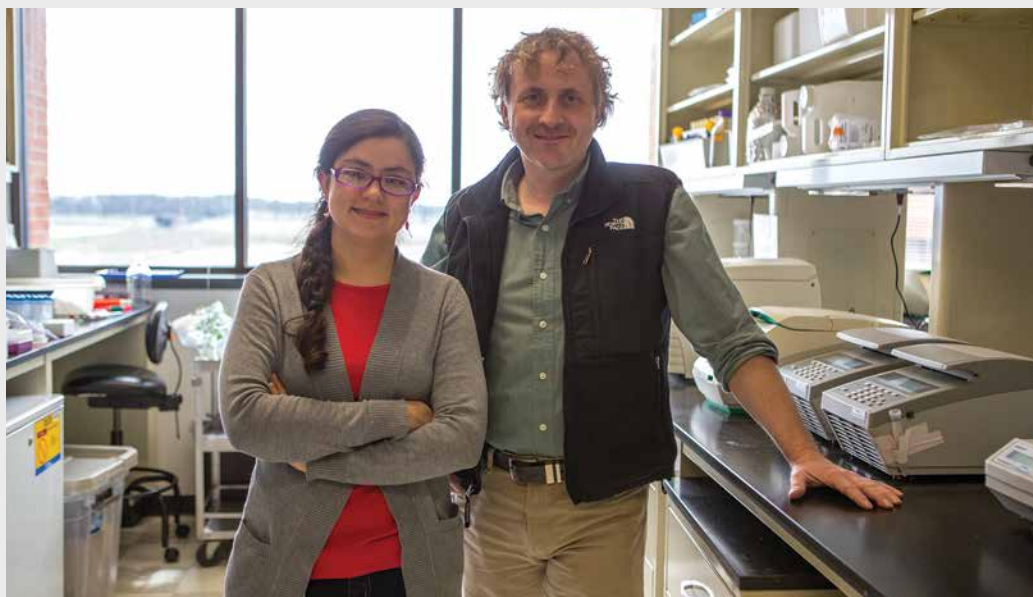
For informational videos on
BoarBuster, visit:
youtube.com/thenoblefoundation

COLLABORATION ADVANCES PRIVATE LAND STEWARDSHIP

The Noble Foundation, Texas A&M University's Institute of Renewable Natural Resources (IRNR), and the East Foundation signed a memorandum of understanding in February that formed the Center for Private Land Stewardship (CPLS).

"Big movements begin with small moments," said Bill Buckner, president and CEO of the Noble Foundation. "Our three organizations are committed to advancing private land stewardship and integrating the interests of landowners with community well-being."

The CPLS is designed to be the hub of education for private land-owners and the public. It will create practical solutions for real-world problems facing landowners while advocating for resource stewardship. Through activities such as land use forecasting, experiential learning, professional training and policy innovations, the Center will inform and demonstrate the value of proper stewardship of private lands. The CPLS will also conduct research on land use changes and other drivers affecting private lands.



DISCOVERY SHOWS MOBILITY OF MESSENGER RNA

Noble Foundation researchers were among those making a discovery that will change the way messenger RNA (mRNA) is viewed in the science community and the classroom alike. The discovery will also potentially aid the development of more efficient crop plants.

For decades, mRNA molecules, which communicate the information encrypted in an organism's genetic material to its protein factories, had been thought to stay within or near the cells in which they were produced, with only a few known exceptions. The new research revealed that a very large number of different mRNA molecules in a plant are mobile. They not only leave the cell, they can travel throughout the plant body. They are

true messengers on the move rather than local conveyors of information.

The Noble Foundation researchers, led by Wolf Scheible, Ph.D., and Monica Rojas-Triana, Ph.D., also identified many mRNA molecules that became mobile exclusively in phosphorus- and nitrogen-limited conditions. They assume that long-distance movement of mRNA molecules aids the plant in adjusting to stressful conditions. This key discovery lays a foundation for future research that will capitalize on this phenomenon for the purpose of developing or breeding crop plants that require fewer finite resources.

This research was published on March 23, 2015, in *Nature Plants*.

Legacy

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What do you wish consumers knew about agriculture?

I wish consumers knew how passionate and committed farmers and ranchers are to their work. Farming and ranching is not a job; it's a lifestyle, and it is not an easy one. You don't bring a struggling calf to your house in the middle of the night, in the dead of winter, just to make money. There are much easier ways to make a living. You farm because you take pride in what you do and you love taking care of what God has provided.

Brook Gaskamp
Soil Renaissance
Project Coordinator

I wish consumers understood what it takes for a person to be a farmer or rancher. They have to be soil scientists, entomologists, plant pathologists, agronomists, horticulturalists, environmentalists, mechanics, carpenters, welders, truck drivers, accountants, marketers, employers, animal nutritionists and students. No wonder only 2 percent of the U.S. population are agricultural producers.

Brian Motes, Senior
Research Associate

Consumers should know that farmers and ranchers are good stewards of the land. Beyond the countless challenges and backbreaking work, farmers and ranchers are the best stewards of our natural resources. They were sustainable before it became a bumper sticker. If they weren't sustainable, they would be unable to continue their operations for generations.

Lia Kouri, Ph.D.
Postdoctoral Fellow

Consumers should know the important role research plays in overcoming the challenges facing agriculture. Right now, agriculture is striving to produce a sufficient supply of affordable food for a growing world population. To achieve this goal, scientists must work to increase yield while overcoming obstacles caused by drought, floods, poor soil, diseases and insects. Research is the vital piece to this puzzle and must be supported.

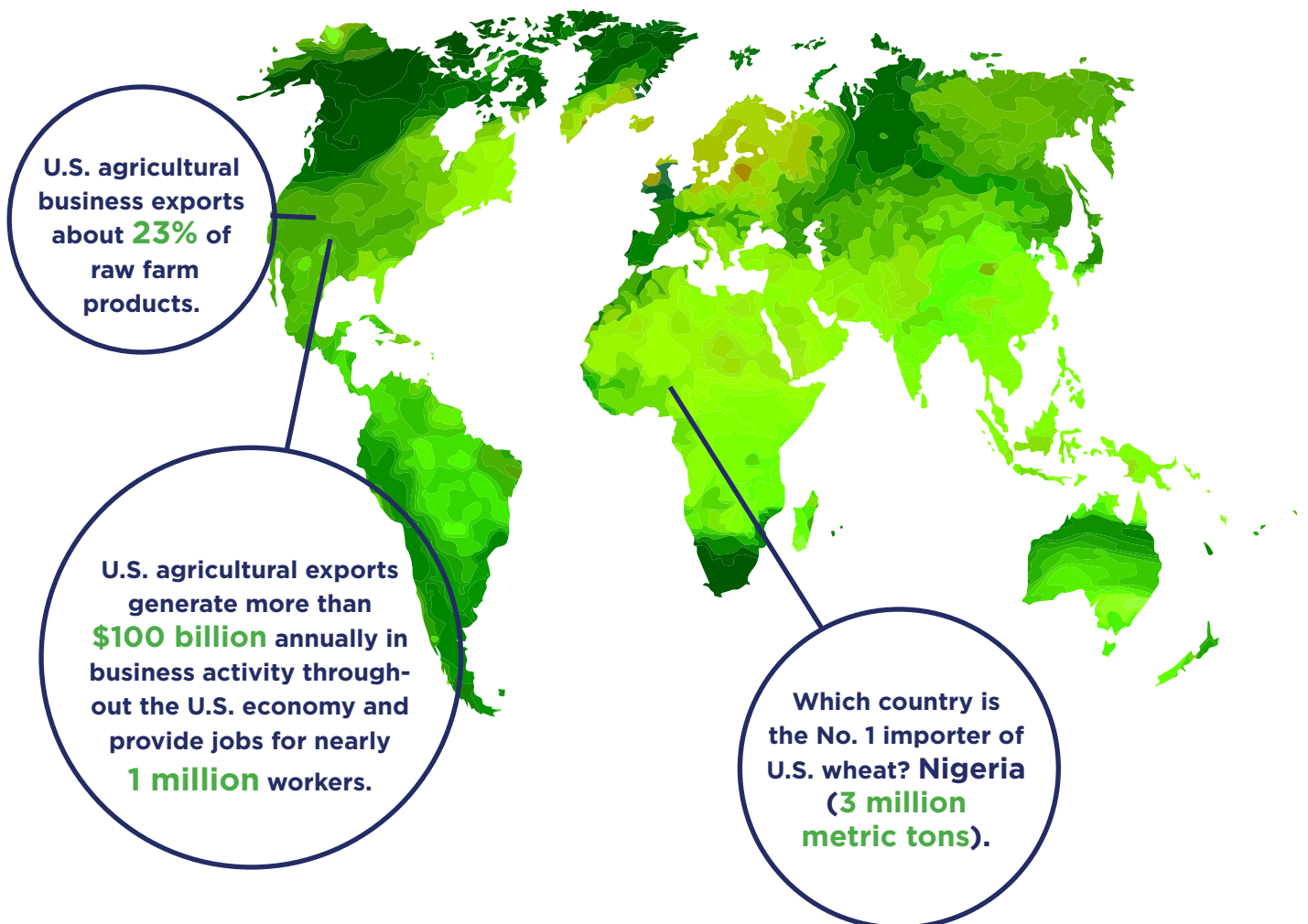
Xin Ding, Ph.D.
Research Scientist

AGRICULTURE

BY THE NUMBERS (PART II)

The agriculture sector not only feeds and clothes the world, but the steady stream of goods and products fuels the United States and global economies.

Agriculture is the single largest employer in the world.



THE TOP 5 AGRICULTURAL COMMODITIES IN THE UNITED STATES ARE:



Cattle and Calves



Dairy products



Chickens



Corn



Soybeans

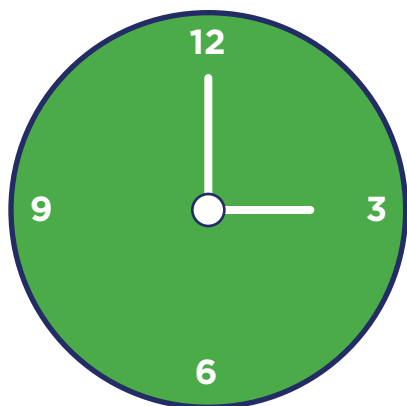
500 million

small farms worldwide
are the source of food

for **80%** of the
population of the
developing world.



1 in **3** U.S. farm
acres exports to
foreign markets.



Around **\$6 million** in U.S.
agricultural products will be
consigned for export to foreign
markets, on average, **every hour**,
24 hours a day, **365 days** a year.

Safety for All

Noble Foundation continues tradition of teaching home and farm safety to area students.

Fifth-graders love egg drops. Scratch that. Everyone loves egg drops.

More than 170 students at the Noble Foundation's seventh annual Ag Safety Day, along with dozens of teachers and volunteers, gathered on the grassy edge of a parking lot eagerly awaiting the event's grand finale.

The students spent the spring morning playing and laughing through a series of hands-on activities. All the games, however, had a serious purpose.

The Centers for Disease Control and Prevention ranks agriculture among the most hazardous industries for adults and youth. More than 16,000 youth (ages 20 years and younger) are injured on the farm each year. The Progressive Agriculture Foundation created the ag safety day concept and more than 400 such events are held in North America each year. The Noble Foundation's annual happening serves south-central Oklahoma.

During the morning, students rotated among a series of educational stations that corresponded with a critical safety topic. At one station students learned chemical safety through a relay race with protection equipment, while nearby they learned about the power of a tractor as it crushes a watermelon. Other stations included activities designed to teach electrical, lawn mower, water and weather safety.

Ag Safety Day's grand finale – the egg toss – tests the students' ability to design a container to protect their class's egg when thrown from a three-story height. As the students and teachers looked on, Ardmore firefighters maneuvered a bucket ladder into place and began dropping each class's container over the edge.

Raw eggs ensconced in bubble wrap and boxes rained down. Some landed with a thud. Some landed gracefully. But with each one, these students will never forget Ag Safety Day.







A Center for All

Agriculture takes many shapes. The Noble Foundation's new Center for Pecan and Specialty Agriculture brings education and collaboration to the forefront to support small-scale producers.

by Courtney Leeper

A hoop house offers visitors a warm respite from chilly Oklahoma winds. A peek inside reveals a green oasis of kale, green onion, broccoli – and is that citrus fruit? – all protected from outside temperatures so that fresh produce can be grown even in winter. Chickens cluck in a coop around the corner, and pecan trees grow strong in the distance, aided by the latest research on pest and disease resistance.

Today's tour group learns about crops traditionally grown on a large commercial scale, crops like corn, wheat and cotton, as well as nontraditional but highly valued crops like pecans. The entire day is about helping the participants discover methods to grow food for themselves and others in their backyard or on small acreage.

This is a vision of the future Charles Rohla, Ph.D., is working toward.

Rohla is the Noble Foundation's Center for Pecan and Specialty Agriculture Development and Technology Advancement manager. The Center is one of four centers of excellence developed by the Agricultural Division during last year's strategic planning process. The centers are designed to focus the division's activities on specific research areas for the benefit of agricultural producers and consumers. The Center for Pecan and Specialty Agriculture's aim is to pull together the Noble Foundation's resources to fill a need for research in the pecan industry and to provide an avenue of learning for those interested in producing food for themselves or retail outlets like farmers markets.

"While other organizations and individuals are doing this type of research and education,

they focus on individual items. Just crops or just livestock," Rohla said. "We're unique in focusing on both together. We want to show people the whole gamut from growing to the plate."

So far the Center, which officially began Jan. 1, 2015, has presented a two-part workshop, "Backyard Food Security," to introduce ways to produce and preserve food on a small scale. Plans in motion involve much more.


A PLACE TO LEARN

Sitting at his desk in the Agricultural Division building, Rohla examines an aerial shot of the Noble Foundation campus in Ardmore, Oklahoma, and points out an area north of Memorial Pond. "This is where we're planning to build the showcase of the Center," said Rohla, smiling and tapping his finger.

The showcase comprises various sections, beginning with an educational view of large-scale commercial crops, then turning to demonstrations of small-scale specialty food production projects, which gradually progress by the amount of land needed.

Near the entrance, corn and wheat stalks will wave in the wind to visitors, inviting them to come learn about the crops essential to general food production. Then the tour gets a bit more personal by displaying options for backyard food production – edible landscaping, fruit trees, a chicken coop, rabbit hutch, garden, small greenhouse, hoop house and shed. The deeper into the Center the tour progresses, the more land will be needed to accomplish the demonstrated projects.

The projects will benefit everyone from the ►

A photograph of Steve Upson, a man with glasses, wearing a blue and white checkered button-down shirt, blue jeans, a black belt, and a blue baseball cap with "THE SAMUEL ROHLA NOBLE FOUNDATION" on it. He is standing in a large, open hoop house with a translucent plastic covering and a metal frame. The background shows the interior structure of the hoop house and some plants.

Steve Upson, soils and crops consultant, is a leading expert in horticulture and hoop houses. Upson will contribute his experience and knowledge to the education and demonstration activities of the CPSA.

most novice producers who'd just like a fresh tomato or two to those who want to make a living from selling food they've produced. "Everything will be connected so tour groups can see all the aspects of specialized agriculture," Rohla said. "We want to show people ideas in real life, not just on a computer screen, and they can pick the ones that might work for them."

The need for this showcase stems from a rising nationwide interest in where food comes from. More and more people are buying small acreages outside city limits, searching for a place to make the fruits of their labor literal. "They have ideas of what they want to do," Rohla said, "but they may not know what they can do or how to go about doing it."

Rohla's mind whirls at all the possible ways to meet this need. The endeavor brings together all three of his educational degrees – his bachelor's in animal science, master's in agricultural education and Ph.D. in crop science – as well as his emphasis on pecan research. "We're also fortunate to have Steve Upson working in the Center," Rohla said. "Steve has a strong expertise in horticulture and is a leader when it comes to specialty agriculture production, especially hoop houses."

Education through tours, demonstrations and other programs will be an essential part of the Center. Rohla envisions a place for people to come and experience this variety of agriculture. "There will be lots of opportunities for education and hands-on learning," Rohla said. "People will be able to get out in the field and see different stages of growth and lots of different options of crops and livestock to grow or raise."

Research will play an integral role, too. While specialty agriculture in this case can include nearly anything grown or raised for personal or direct-to-consumer use, Rohla said they may also look into ways to grow foods not traditionally grown in the Southern Great Plains – bananas, figs, and citrus like kumquats and lemons. "The books say it can't be done, but there might be ways to grow them," he said. "Some Noble Foundation cooperators already are, on a small scale, in hoop houses. Maybe there are ways to improve that production, even here in Oklahoma and Texas."

He's also quick to point out a particular specialty crop, the pecan, as one the Center plans to pay special attention to.



University of Chapingo students Fernando Gutierrez-Montiel (left) and Uriel Vite-Orozco plant pecan trees that will be part of CPSA's genetic research.

ANSWERING PECAN QUESTIONS

Pecans have been an important food source for hundreds of years, and the Noble Foundation has been involved in pecan research for decades through native and improved pecan orchards on the Red River Farm and McMillan Road Farm. Recently, these healthy nuts, packed with vitamins and antioxidants, have gained more attention from consumers in the U.S. and abroad, especially China, which consumes more than a third of the U.S. crop.

Compared to other agricultural industries, the pecan industry and research efforts are young. And the few established pecan researchers are reaching retirement age. The pecan industry has great potential, but producers have many questions yet to be answered.

Questions about why it takes so long for pecan trees to reach maturity and why trees across the U.S. seem to be on the same alternate bearing pattern. One year all trees may produce great and the next none do. And how can diseases and pests be managed? How can we unlock the natural potential of the pecan?

With scientists across disciplines who are experts in their research areas, the Noble Foundation is uniquely positioned to help answer these questions, Rohla explained. He meets regularly with scientists in both the Plant Biology and Forage Improvement divisions to discuss pecans. "It's great because I tell them the problems pecan producers face," he said, "and they help me solve those problems."

When the Noble Foundation researchers make discoveries, the information is used to advise and assist agricultural producers. It also aids collaborative projects with universities and governmental agencies so solutions found can yield more widespread results.

Just this year, the Noble Foundation began participating in a multistate research project that was initiated by a pecan grower. Researchers in Arizona, New Mexico, Oklahoma and Georgia will all be doing the same experiment to study the environment's role in the experiment.

These kinds of collaborations will be critical to the Center for Pecan and Specialty Agriculture. The Noble

Foundation already works with the U.S. Department of Agriculture and University of Georgia on pecan research, but the CPSA will strive to advance the collaboration.

Rohla is putting together an outside committee, which will be instrumental to the Center's success. The committee will be made up of university specialists, governmental agency workers and agricultural producers involved in pecan and specialty agriculture production. These people will help determine the types of projects the Center should demonstrate. "We want to make sure we're showing people production practices and options that they want to see and that will work well in this area," he said. "The outside committee will help us ensure we're giving people what they want and need."

For now, there is much planning and preparation to do, but Rohla is excited about what is ahead.

"There's a lot of work to be done," he said, "But I'm excited. We're all excited. This is the beginning of something extraordinary." ■



Malay Saha, Ph.D., (left) and Wolf Scheible, Ph.D., lead the Noble Foundation's low-input agriculture research cluster.



Less is More

Noble Foundation forms new research clusters to address agriculture's most pressing problems, starting with how to grow additional food while conserving resources.

by J. Adam Calaway and Courtney Leeper

To feed the world, you must first feed the plants. History has proven this to be true. Between the 1940s and the late 1960s, the Green Revolution focused on breeding plants that would produce higher yields with the help of additional inputs, such as water and nutrients.

The formula was simple: new plant varieties plus plenty of additional nutrition and protection equaled much higher yields and abundant food.

The idea worked. Norman Borlaug, the Father of the Green Revolution, was credited with saving a billion lives from starvation, and he was awarded the Nobel Peace Prize in 1970. The world rejoiced and has continued these practices for decades.

With the world population expected to climb from 7.3 billion people today to more than 9 billion by 2050, researchers, plant breeders and agricultural producers are faced with the challenge of feeding the largest population in recorded human history. The Food and Agricultural Organization of the United Nations (FAO) estimates that food production must increase 70 percent to support the additional 2 billion people.

The simple solution is just feed the plants more. Farmers and researchers could return to the previous model, increase inputs and wait for the expected bump in yield.

Just one problem: this time around, increasing food production will have to come while decreasing input use due to increasing prices, decreasing water availability for agricultural use and climate changes. Less water. Less land. Less fertilizer. Still, there must be more food.

The process of growing food with less resources is ►



Researchers Wolf Scheible, Ph.D., and Malay Saha, Ph.D., discuss initial results from a colorimetric assay, which assessed phosphate in *Medicago truncatula* leaves.

called low-input agriculture. And it's going to help save the world from starving and make the world more sustainable.

UNLOCKING SECRETS

For almost 70 years, the Noble Foundation's research has contributed to solving regional agriculture's most pressing problems. As agriculture enters a new era of challenges, the Noble Foundation enters a new era of research capabilities.

In 2014, the organization created five research clusters (see sidebar), drawing together researchers from each division to

address significant agricultural problems in the Southern Great Plains, then applying those outcomes to global challenges.

Low-input agriculture was pegged early in the process as a cluster, and, since its inception mere months ago, research has already taken shape. Leading the cluster is Malay Saha, Ph.D., from the Forage Improvement Division, and Wolf Scheible, Ph.D., from the Plant Biology Division.

Narrowing their focus, these Noble Foundation scientists selected three primary inputs to research: water, nitrogen

and phosphorus. Each input is critical for plant vitality, and each is limited. By researching the ways plants acquire and use these inputs, more efficient plants can be developed, advancing the mission to produce more with less.

When it comes down to it, current crop and forage varieties are not always the best managers of their resources. But there are a few out there that do spend their resources wisely. Saha and Scheible's goal is to find them, unlock their secrets and breed varieties that efficiently use inputs.

Water is essential, but it's limited in a land plagued by multiple years of drought. Drought wreaks havoc on plants trying to soak up precious water through their roots, and the FAO expects droughts to become more frequent and intense throughout the world in the coming decades.

Tall fescue has formed a naturally occurring, symbiotic relationship with a fungal endophyte – a microscopic organism that lives within the plant. The fungal endophyte helps protect the plant in drought conditions and, to some extent, from insects. In return, the plant provides shelter for its friend. Saha's group works with other researchers at the Noble Foundation to see how endophytes help plants use water more efficiently.

"There will be few topics that eclipse the importance of water usage in the coming generation," Saha said. "We want to learn the mechanisms that nature has already put in place and see if we can extend them to our widely used crop plants."

HUNGRY PLANTS

Inputs of nitrogen and phosphorus are key to the agricultural production system. Farmers apply nitrogen and phosphorus to the soil to foster healthy growth. Plants require those nutrients, but they aren't always good at absorbing and utilizing them. Oftentimes, a majority of the nutrients are lost, running into lakes and streams, causing environmental damage and eating up precious time and resources. If researchers can produce plants that consistently take up and utilize nutrients more efficiently, it's a win-win situation all around.

Specifically, Noble Foundation scientists are studying phosphorus utilization efficiency in alfalfa and related species. Tucked away on the coasts of Mediterranean countries – northern Africa, Israel, Spain – are a few hundred different lines of *Medicago*, the genus of plants to which alfalfa belongs. Just like humans have different physical characteristics, plants within the same family develop different special abilities. Researchers study these plants to find the naturally occurring lines that don't require as much phosphorus to produce plentiful and healthy foliage.

A plant has a feedback mechanism similar to that of the human body's mechanism of letting us know when we can't eat

any more food. We can delay the mechanism and continue eating, and so can plants. Scheible's group is investigating how to make plants "hungry" for the phosphorus they're given so they will not let any go to waste.

There's a balance to this research. Like humans, too much of a good thing can be bad, so the Noble researchers are also looking for ways to make a plant take up more phosphorus without taking up too much and making itself sick.

The same principles are being examined in winter wheat. While many researchers study phosphorus efficiency in wheat, the Noble Foundation is unique in looking at phosphorus efficiency in dual-purpose wheat – wheat that is both grazed by cattle and used to produce grain milled for flour.

"In studying plants for phosphorus efficiency, we want to find those that use phosphorus wisely," Scheible said. "When we remove phosphorus from the growing medium, we're looking for those that still grow good amounts of biomass so that we aren't only conserving resources but also ensuring we can meet future demand."

Nitrogen is the nutrient plants need most. And – as Saha said – they get a little greedy with it. "Plants like to accrue more nitrogen than they need and keep it as a luxury," Saha said. Saha's goal is to decrease the amount of nitrogen needed for bermudagrass and winter wheat production by 10 percent. To do so, he is working with other Noble Foundation scientists such as Kelly Craven, Ph.D., whose lab found fungi that boosts biomass production. Saha's group is building on this research to see how crop plants react to being grown with these fungi and less nitrogen.

As Scheible and Saha's groups seek plants that use their resources efficiently, they can study the genes that control those decisions and discover why. Then they will apply that knowledge to developing plants that use less nitrogen, phosphorus and water but still remain productive. Plants that naturally conserve resources.

"We're trying to understand how plants use these inputs so we can transfer that knowledge to the process of breeding stronger, more efficient plants," Scheible said. "If we can get a plant to better manage its resources, that will be a great thing for all of us – the environment, agricultural producers and consumers." ■

NOBLE FOUNDATION RESEARCH CLUSTERS

The five research clusters bring together expertise and resources from all three of the Noble Foundation's operating divisions. These clusters create enable the Noble Foundation to better identify and solve key agricultural problems along the entire spectrum, from the soil-plant interface to the plant-animal interface.

The five clusters are:

- Low-Input Agriculture
- Breeder's Toolbox
- Plant-Animal Interaction
- Plant Growth and Development
- Plant-Microbe Interaction



JIMMY KINDER
Wheat Farmer



SUSAN BERGEN
Fruit and Vegetable
Producer



SCOTT LANDGRAF
Pecan Grower



MATT GORGES
Dairyman



ZENO MCMILLAN
Cattle Rancher



THE FRUITS OF THEIR LABOR

LIFE AS A FARMER AND RANCHER IS MORE THAN A JOB; IT'S A LIFESTYLE. NO MATTER WHAT THEY PRODUCE - PEACHES TO PECANS, KALE TO CATTLE - EACH AGRICULTURALIST SHARES THE SAME UNYIELDING DEDICATION TO THE LAND AND THEIR ANIMALS, ALL TO PROVIDE CONSUMERS THE HIGH QUALITY FOOD THAT LANDS ON THE DINNER TABLE EACH NIGHT.

by Courtney Leeper

Silverware clinks around a crowded dinner table. The aroma of piping hot food wafts in and tickles taste buds. Laughter fills the space as family trades jokes and jest. Then the food arrives – a tall glass of milk, buttered rolls, leafy spinach salad, savory beef and a rich slice of pecan pie. The clamor quiets, and all thoughts turn to an activity essential to life – eating. In a few minutes, the food disappears and focuses shift back to the daily grind. Across the world, this scene plays out each day, again and again. Mealtime brings people together, provides them respite for a few moments and fuels their day.

Behind each plate of food is a team of farmers and ranchers. They come from different backgrounds, fill different parts of the plate and do things a little differently. But they are bound by a common understanding – this is not a job, this is a way of life. These are the faces of agriculture. These meals are the fruits of their labor. And for all their challenges, they love feeding the world.

A DAIRY DREAM

The day begins at 2:20 a.m. for Matt Gorges. His cows graze in paddocks as far as three-quarters of a mile away and as close as his backyard. By 3 a.m., he's out the door and bringing them up to the milking barn for their first milking of the day before setting out to do chores until it's time to milk again in the afternoon.

"Some days I may be able to get a nap. Some days, not," he said, sitting at his family's dining room table. His wife, Diane, and six children, ranging in age from 11 to 21, are a big help, although he's losing hands with his oldest son, Kolbe, beginning his own dairy in Texas and his next oldest, Blaise, going off to college soon.

"I never wanted to push farming on my children," Gorges said. "To do this, you have to want to do this." Kolbe has been helping his father since he was 7, and now he's bought 87 heifers from him. "He'll do just fine," said Gorges, his words spoken with an underlying appreciation and pride.

Part of this gratification stems from watching his son grow up as a dairyman. Gorges, originally from Kansas, didn't grow up on a farm. However, his family's livelihood depended on dairy farmers. His father hauled raw milk from dairy farms to processing plants, and his parents spoke highly of those dairymen. "I looked up to farmers because my dad looked up to farmers," he said. "I was fascinated by them."

At 17, Gorges had his chance to enter the business alongside two older brothers. With \$5,000 in each of the boys' pockets, the trio leased land and bought cows from an uncle in Kansas who was leaving the business. Learning as they went, they operated a conventional dairy – they brought hay and grains to the cows, the cows ate, and they milked the cows. "It was everything hectic and exciting," he said. "I was too young to know any better," he added, laughing a little. "It doesn't take long to lose the romance."

After dairying on two farms with family for 19 years, Gorges was ready ►



“I never wanted to push farming on my children. To do this, you have to want to do this.”

- Matt Gorges

to go out on his own. The brothers had run a productive dairy – the third most productive in Kansas – but productivity doesn't necessarily equate to profitability.

Gorges was interested in starting a pasture-based grazing dairy. Instead of bringing feed to the cows – an expensive practice – pasture provides most of the daily intake for the cows. With help from his extension agent and specialists at the University of Missouri, Gorges decided to move his young family to southeastern Oklahoma. Land was less expensive and rain more plentiful, both important factors for a pasture-based dairy.

The MU research specialists encouraged Gorges to contact the Noble Foundation for recommendations on soil health and forage production. “They’ve helped us in just about every way,” said Gorges of the Noble Foundation’s consultation program. “It was one thing to buy feed and entirely different raising feed for grazing. You have to be just as concerned with your forages as you are

your cattle.” That was 18 years ago, and now the Noble Foundation is also helping his son Kolbe as he starts his dairy.

By 2 p.m., it's time for the afternoon milking. Swish, swish, swish, milk is pumped by machine from the cows' udders and into tubes that transport it to large stainless steel tanks, where it's cooled. Every other day, Dairy Farmers of America, a nationwide milk marketing cooperative, picks the milk up and takes it to a processing plant, where it is pasteurized and bottled or made into products like cheese and yogurt. Even with help from family and a few employees, the milking will not conclude until about 5 p.m.

With fluctuating milk prices and environmental conditions, it's not easy to predict where the operation will be financially from year to year. Regardless, the knowledge that he's fulfilling a childhood dream and raising his children there keeps him going. “The long hours don't bother us,” Gorges said. “I enjoy what I do. I just want to keep doing this and keep enjoying it.”

A GENERATIONAL ENDEAVOR

Jimmy Kinder was running a tractor by the time he was 9 years old. He wanted to drive earlier, but his dad insisted he be able to push down the clutch with one foot.

“I’ve always known I wanted to be a farmer, and I was blessed to be born into a family where that was possible,” said Kinder, a fourth-generation wheat farmer from southwest Oklahoma. “I guess you could say farming was genetically imprinted in me.”

At age 14, Kinder and his father were preparing to harvest a wheat crop – the first crop Kinder felt ownership in after all his hard work that summer – when a storm hit. Very rarely did his father tell the family to get to the cellar, but this time he did. The wind was howling, and the hail pounded against the ground. “You couldn't hear yourself think,” Kinder said. “But I was aware of what that hail was doing to the crop outside.”

When it was over, Kinder's mother, brother and sister headed back to the ►



Matt Gorges moved from Kansas to southeast Oklahoma to start a grazing dairy with a little assistance from the Noble Foundation.



Fourth-generation farmer Jimmy Kinder keeps up with the latest information and technology from the Noble Foundation to benefit his land and operation.



house, but he followed his father over to where the field was – where those amber grains of wheat should have been.

"I asked Dad, 'What are we going to do?'" he said. "I'll never forget his reply: 'We've got to start thinking about next year's crop. This one's gone.' It was like that entire year's income check was lying out there on the ground, but you had to move on."

Learning the tough lessons that come from working directly with Mother Nature didn't deter Kinder from making farming his profession and passion. By the time he graduated from Cameron University, he was farming enough land to make it his full-time career.

Kinder stands tall, wearing a Noble Foundation cap and looking across his wheat fields. It's not too far from the site of his childhood home and just a little farther from where he and his wife, Margaret Ann, live with their youngest, Whitney, and raised their two older children, Brad and Bryson.

The fields are bright green, and cattle graze some of them. Each generation of Kinders has grown dual-purpose winter wheat. Planted in the fall, the wheat sprouts up like grass. During the winter months, the wheat goes dormant, so

“ Farming is a system. Each component – soil, forage development, economics, livestock – is a piece, but it's really all about how you put those pieces together. ”

– Jimmy Kinder

Kinder and other cattlemen who raise stocker cattle – weaned calves from

cow-calf operations – allow them to graze out on wheat fields. In late winter, Kinder has a decision to make. He can either keep the cattle on the wheat, or he can pull them off and move them to other pastures to allow the grain to develop into what could eventually be harvested, sold to his local cooperative and shipped by truck or barge to domestic or international mills to be ground into flour for bread.

"Farming is a system. Each component – soil, forage development, economics, livestock – is a piece, but it's really all about how you put those pieces together," Kinder said. That's where the Noble Foundation has helped, giving him access to a multidisciplinary team of consultants who offer their counsel at no cost. These experts keep up with the latest information to ensure Kinder's wheat and cattle operations are in balance.

In 1999, Kinder began experimenting with no-till farming. Instead of breaking the earth to prepare for planting, seeds are planted directly into the soil, reducing erosion and conserving soil moisture and health. "Fifteen years later, I can brag and say I have better soil," he said. "That's a big deal to me because I'm able to give back a better farm than I received to the next generation." ►



Susan Bergen sought advice from the Noble Foundation when she began growing fruits and vegetables.

PEACHY BEGINNINGS

Farming was not in Susan Bergen's frame of reference growing up. However, she always held a love of the earth, a trait fostered in her near Boston, Massachusetts more than 1,700 miles away from where she now farms in Stratford, Oklahoma.

"I grew up in a family of dirt diggers," she said. Her great-grandfather was a plant hybridizer, and her family always kept fresh cut flowers on the kitchen table.

When she moved to Oklahoma City to work as a stockbroker and met the man who would become her husband – an Oklahoma cowboy – her world completely changed. "We would be going down the road, and he'd be talking about agriculture. I'd be looking at the birds, looking at the trees. I had no clue what was going on," she said, laughing at the memory.

In 1998, Bergen entered the world of agriculture with full force after she and her husband bought land on the Gerty Sands aquifer near Stratford. Perfect for growing peaches, they planted 9,000 trees, and she took charge of managing and marketing the 6,000 pounds of fruit they produced.

"It's shocking how hard farming is," she said, thinking back to her beginnings. "And there are so many ways you can do things wrong." Bergen reached out to the Noble Foundation and Steve Upson, soils and crops consultant, who helped her learn how to manage insects, irrigate and fertilize. "They gave me the courage to start and keep going, knowing that help was only a phone call, or many times a car ride, away."

The peaches were a success, and she found grocery stores asking what else she could produce. Upson helped her determine additional crops that would be successful in her area, and, although the peach trees yielded their final crop in 2014, Peach Crest Farm is now a 330-acre-USDA certified organic "farm for all seasons." In February, you can find kale, spinach, turnips, arugula and bok choy growing in her fields.

Bergen has made it her mission to provide high quality produce to her customers, and some of her favorite consumers are children. "I'm intrigued by children's closed minds and re-engaging

them with real food," she said. She became involved in Oklahoma's Farm to School initiative at the encouragement of Program Administrator Chris Kirby. At the recommendation of Upson, her first Farm-to-School crop was cantaloupe.

During her winter planning months, Bergen visits school administrators and kitchen staff. Cutting board and fresh vegetables in hand, she conducts three training sessions before a school starts offering fresh produce for lunch. "They tell me they don't like sweet potato, and I say, 'I didn't like it either,'" she said. Then she cuts off a slice and gives it to them raw. "They say, 'This is good!'" she said. "Good food is shockingly good."

Within the 13 years since she began farming, Bergen has been able to provide fresh fruits and vegetables to 68 school districts in Oklahoma, reconnecting tens of thousands of children with fresh produce. "This all started with the Noble Foundation being able to support a new fruit and vegetable farmer in Oklahoma," she said. "It's a privilege to be involved in agriculture, and I hope to never stop farming." ►

“It’s a privilege to be involved in agriculture,
and I hope to never stop farming.”

– Susan Bergen





Zeno McMillan uses the Noble Foundation's voice of advice and confirmation to continually improve his ranch, leaving it better for the next generation.



A RETURN TO RANCHING

A winding dirt path leads through the rocky hills of the Arbuckle Mountains. Miles from the main road, unknown to most, is McMillan Ranch. A final bend gives way to a wooden gateway, and Zeno McMillan steps down from his horse.

Later he explains the horse's name is "Vangus," renamed thusly by his 5-year-old daughter, Rory, who, at the age of 2, couldn't pronounce the horse's original name "Vegas." McMillan and his wife, Becca, thought the new name was appropriate for a horse on a ranch with Angus cattle.

Like many ranchers in the Southern Great Plains, McMillan runs a cow-calf operation. Calves are born in the spring, and he helps their mamas guide them on their growth path until they've been weaned in the fall. He's been around ranching his entire life. It's a lifestyle he doesn't take for granted. One that's made special because of the years he spent away from it.

Growing up, McMillan worked alongside his father, Terry, and older brother,

Ty, on the central Texas ranch his great-grandfather put together. When he went off to college – Texas A&M for his bachelor's degree and Angelo State University for his master's degree – he always looked forward to leaving the city and returning to the ranch during the summers.

The ranch wasn't big enough to support three families, so after college, McMillan paved his own path. First, he worked for the Texas General Land Office and then as the assistant and later full superintendent at a golf course. "At the time, you do what you have to do," he said. "But the farther away I got from the ranch, the more I appreciated it. The more I hoped to go back."

About three years down the road, Ty, who'd gone back to the family ranch after college, came across an opportunity to sell the Texas ranch and buy property in the Arbuckle Mountains. Zeno jumped at the opportunity to join his brother in the ranching endeavor. "It was like a dream come true," McMillan said. "Looking back,

I wouldn't change my time away from the ranch. I learned so much. It's made me appreciate what I get to do more."

Operating a cow-calf operation is a solitary life. Cattle take priority, which means functions in town aren't always attended. Every day is a continued effort to ensure his cattle have access to fresh food and water. McMillan's trained eye can spot any health issue, which is immediately addressed. During calving season, he checks heifers every couple of hours – day and night – to make sure he's available to help pull a calf if its mama has trouble.

Their welfare is his concern because they are his family's livelihood. The Noble Foundation is a voice of advice and confirmation for McMillan. "They have the means and brains to answer questions through research and provide tangible answers," he said. That's a valuable tool for McMillan, who is constantly looking to improve his operation. "I like being able to look back and say, 'I did that. I made that improvement.'" ►



“ There is a continual process preparing for the next crop. There’s a strategy, but there is no recipe. ”

– Scott Landgraf

In the end, McMillan surveys a winter pasture and the cattle grazing nearby before repeating a lesson he learned from his father. “The land really isn’t mine,” he said. “We’re just stewards of it for a short time. I’ve been given this opportunity to work here, and we are responsible for improving this land, leaving it better for the next generation. That’s what I try to do every day.”

THE BEST IS YET TO COME

Tucked beyond an orchard of pecan trees, just off a busy highway, is Scott Landgraf’s home. Inside, a little pair of shoes

belonging to his 2-year-old granddaughter graces the kitchen floor. The atmosphere alludes to everything you might associate with pecan pie – warmth, family, tradition and hope for the future. “My father and I used to climb native pecan trees,” he said, launching into his family’s history.

In 1946, his father, Bill, bought the farm they still grow pecans on. Bill started clearing the land with only the help of an ax and a few other handheld tools. “I’m still pulling out stumps today,” Landgraf said. “That reminds me of all the work my father put into this place.”

When Landgraf was born two years

later, his mother, Leota, would take him out to the clearing and sit him on a stump to watch his father’s progress. By the age of 5, he had his own position in the “pecan pick-up” line. His father would climb a tree and flail the pecans out with a 30- to 45-foot flailing cane, which was placed between branches and shaken. By the time he was 10, he was picking up pecans that fell into water and selling them for his own money.

Later Landgraf went off to Oklahoma State University and studied soils and water, then he returned home and took a position at the Noble Foundation. “The Noble Foundation had a great influence on



Scott Landgraf lives out his lifelong ambition of pecan production alongside his family with support from the Noble Foundation.

my father and how he produced pecans, and they enabled me to have an education I couldn't have got anywhere else," he said. During his 30-year career at the Noble Foundation, Landgraf also continued helping with his family's pecan operation.

In 1976, he and his wife, Janice, began planting their own pecan trees. Just as Landgraf had been outside watching his father clear land for pecans, the couple had their firstborn son outside in a playpen while they planted trees. In the 1980s, Janice began selling pecans in gunnysacks under the carport, and from there it was a continual progression of growth. First,

sales moved to a farm shop, then they built a storefront visible from the highway. Over time, that shop has been expanded.

"It takes unbelievable patience," Landgraf said. "We've had to grow into this operation." The pecan business comes with great risk. It takes an investment of up to 10 years of caring for trees before they produce a crop; the traditional holiday sales season is only two months long; and once the harvesters are put away, the real work begins. "There is a continual process preparing for the next crop," Landgraf said. There's pruning, fertilizing and spraying for pests to consider. "There's a strategy,

but there is no recipe." But the best is yet to come, it seems. The Landgraf sons, Jeff, Wes and Justin, and their families are interested in the business. "It's bigger than life to have my family around," he said. "Farming is my golf game, my going to sports - it's what I do. It has been a lifelong ambition, which I am now getting to live out, and I'm grateful for that blessing." ■



To watch the companion video, go to bit.ly/FruitsOfTheirLabor



Strawberry DNA Awesome



Noble Academy brings agricultural education alive – literally – by providing this step-by-step experiment about the building block of life.

by Robyn Peterson

Education has been a cornerstone of the Noble Foundation since its inception. Founder Lloyd Noble established his organization in the post-Dust Bowl era to educate farmers and ranchers on ways to safeguard the soil to prevent future calamity.

In the fall of 2012, the Noble Foundation created Noble Academy, centralizing its outreach and educational activities to deliver agriculture- and science-based education for students, from middle school through college.

“We want to demonstrate the importance of agriculture to society and the need for research to advance the industry,” said Frank Hardin, Noble Academy manager. “We also strive to communicate the wide range of career opportunities in agriculture to students.”

Noble Academy began working with Oklahoma teachers and education-related associations to expand its efforts to provide lessons to students through in-class demonstrations. These hands-on demonstrations are designed to fit into a teacher’s lesson plans and are a simple but effective way to bring science and agricultural education together. “That’s the trick to teaching, providing students with experiences,” Hardin said. “That’s the methodology behind Noble Academy – give students tangible learning moments at the intersection of agriculture and science.”

One of these experiential lessons is strawberry DNA extraction. DNA is the blueprint for life. Understanding it is the gateway to understanding life and how organisms function. Hardin uses strawberries because they have eight copies of each chromosome, making them well suited for the experiment. “Students studied DNA, but they’ve never actually experienced it,” Hardin said. “By studying and understanding DNA, we can use this information to select for, breed, and produce plants that may ultimately improve food production and help us feed a growing population.”

Below are step-by-step instructions for conducting an in-classroom strawberry DNA extraction. ■

MATERIALS

- 1 strawberry
- 50 mL tube
- Pipette
- Woolite laundry detergent (5 mL)
- Water (45 mL)
- 2 tsp of salt
- Ethanol (25mL) or ice-cold rubbing alcohol
- 1 sandwich-sized zip-close bag
- 1 coffee filter
- Funnel
- Inoculating loop (or popsicle stick)
- Collection cup

PROCEDURE

Step 1: Make lysis buffer.

- Using the empty 50 mL tube, add 5 mL of Woolite (detergent) and 45 mL of water.
- Mix gently by inverting the tube.
- Add the salt to the Woolite-water solution.
- Mix gently by inverting the tube.
- You have made a **lysis buffer**.

Step 2: Make strawberry lysate.

- Place the strawberry in the zip-close bag.
- Remove all air from the bag and seal.
- Mash the strawberry in the zip-close bag to a pulp.
- Open the bag and add all (50 mL) of the lysis buffer.
- Remove the air, seal the bag and mix the strawberry pulp with the added lysis buffer.
- You have made a **strawberry lysate**, which is lysed strawberry cells, or cells that have been “broken open.”

Step 3: Filter the strawberry lysate.

- Fold the coffee filter in half.
- Fold the coffee filter in half again, making a triangle.
- Looking at the rounded edge of the triangle, there should be four sheets of paper. Pull one sheet away from the other three sheets and open it up to form a cone. Confirm that the filter will not leak.
- Place the filter into the funnel, and place the funnel into the collection cup.
- Pour the **strawberry lysate** from the zip-close bag into the filter.
- Collect the filtrate in the collection cup. To speed up the process, pick up the filter from the top and gently squeeze the bottom of the filter.
- You have produced filtrate, which includes the **strawberry DNA**.

Step 4: Visualize your strawberry DNA.

- Remove the funnel from the collection cup.
- Add 25 mL of ethanol slowly to the collection cup with a plastic pipette. Introduce the ethanol using the side of the cup.
- Recognize that at the interface (between the ethanol and **strawberry lysate layer**), the DNA will begin to precipitate out of the **strawberry lysate** and will appear as a bubbly, cloudy residue. As the DNA begins to condense in the ethanol layer, it will become milky white and slimy to the touch. A “precipitate” is an insoluble compound that occurs as a result of a precipitation reaction.
- Collect the **strawberry DNA** using the inoculating loop.



To watch the companion video, go to bit.ly/strawberry-dna



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SCIENCE
by Taylor



Banking on Miracles

Oklahoma Blood Institute initiates state's first public umbilical cord blood bank with support from the Noble Foundation.

by Jessica Willingham

Howie Jackson was just 27 years old when he was diagnosed with acute lymphoblastic leukemia, a form of the disease common in juvenile patients younger than 17 and adults older than 65.

But that was just the beginning of his rare and remarkable story.

Treating leukemia often involves a bone marrow stem cell transplant, which requires a viable donor who is a genetic match (usually found among the patient's close family members). Jackson, however, was adopted from the Azores Islands, near Portugal, making a family option near impossible.

His future became a game of roulette as he was entered into the National Marrow Donor Program in hopes of finding an unrelated genetic match in time to save his life.

Almost as an afterthought, Jackson's transplant coordinator requested permission to enter Jackson into a different kind of donor registry – the National Cord Blood Program – on the slim chance that stem cells harvested from the umbilical cord of a full-term pregnancy would provide the match to save Jackson's life.

If the search yielded a match, Jackson would make history as the first adult in the state of Oklahoma to receive an umbilical cord blood stem cell transplant.

The odds were not in his favor, and it was a bet he couldn't afford to lose.

BANKING ON IT

The National Cord Blood Program is a public bank housing the umbilical cord blood of full-term pregnancies for the purpose of harvesting viable stem cells as matches for patients with blood cancers and other blood disorders, like leukemia or sickle cell anemia.

The umbilical cord is taken after childbirth without harming the child or mother. After collection, cord blood is tested for tissue type and viruses, processed for freezing, and stored until it is needed for transplantation.

Unlike private umbilical cord banks, which collect and save umbilical cords for the specific use of being a match for the individual it was harvested from or for members of the individual's family, a public bank can be utilized by any eligible patient entered into the registry. So someone of Portuguese descent, like Jackson, could be a genetic match for a donor halfway across the country. Further, public umbilical cord banks are completely free.

"In Oklahoma, prior to our public cord blood bank, the only option for an

expectant mother who wanted to utilize her baby's umbilical cord was to bank it privately," said Gary Lynch, director of corporate development for the Oklahoma Blood Institute (OBI). "The initial cost to bank privately is between \$2,000 and \$2,500, then an additional \$150 a year after that. All of this without a guarantee that it would be useable for her child or an immediate family member."

The first umbilical cord blood stem cell transplant was successfully completed in France in 1988 on a child diagnosed with a rare blood disorder. The first transplant on an adult was successfully completed in 1997, just a few years before Howie Jackson's acute lymphoblastic leukemia diagnosis in 2001.

Without a public bank in Oklahoma (the closest option is in Houston, Texas), umbilical cords – and the potentially lifesaving stem cells they hold – were considered medical waste and thrown away. OBI wanted to change that.

WITH A LITTLE HELP

The need for a public umbilical cord ►





blood banking center within Oklahoma is as unique to the state as waving wheat and windy days. Oklahoma has the largest Native American population per capita in the United States, representing an opportunity to grow the national registry to further include and provide matches for minority patients.

"Only 0.2 percent of 1 percent of the national registry is Native American," Lynch said. "Oklahoma's Native American population, the largest per capita in the country, is the least represented group. We can add to the diversity of the national registry by leaps and bounds, and in a relatively short period of time."

OBI set a goal to raise \$3 million – enough to establish and maintain the public umbilical cord blood banking center for two years. OBI began reaching out to organizations within the state for financial support.

The Noble Foundation reached back with \$15,000 to support the center's creation and operations. The Noble Foundation, a longtime supporter of OBI, has given \$790,000 to date in support of the institute and its various missions.

"The Noble Foundation and the Oklahoma Blood Institute share the same goal of advancing Oklahoma and its quality of life," said Mary Kate Wilson, director

Oklahoma Blood Institute employees process umbilical cord blood donations to preserve potentially lifesaving stem cells.

of philanthropy, engagement and project management at the Noble Foundation. "In addition to helping Oklahomans, the public bank gives us the opportunity to increase the diversity of the national registry and help people everywhere. We wanted to be a part of this noble cause."

The center opened in January 2014. OBI will soon complete the rigorous Food and Drug Administration licensure process for the cord blood facility. Additionally, a major portion of OBI's original headquarters in Oklahoma City has been renovated to accommodate offices, laboratory and cryogenic storage tanks for the program.

OBI's new public umbilical cord blood banking center is one of 17 in the country and 24 worldwide. Mothers giving birth at OU Medical Center can choose to donate their child's umbilical cord to the state bank. OBI will partner with additional hospitals in the future and eventually collect enough cords to qualify for entry in the national registry. Opening OBI's public umbilical cord blood bank and establishing its presence in the national registry is just the beginning; raising awareness, sustaining funding and getting mothers to donate are their greatest challenges.

"Cord blood is being used for treatment of blood disorders, but scientists are beginning trials for diabetes and traumatic brain injuries," Lynch said. "The future is unlimited."

LUCKY HAND

Today Howie Jackson is cancer free. He was the first adult in Oklahoma to receive a stem cell transplant from umbilical cord blood after finding six perfect genetic matches in the national donor registry. He entered into remission.

A year and a week after his successful transplant, his leukemia returned. But because his first transplant was a year earlier, he was eligible to enter the national umbilical cord blood registry again.

Five of the original six genetic matches remained available; thus, Jackson became the first adult in Oklahoma to receive two stem cell transplants from umbilical cord blood.

Because of his success, it is now common practice to use two cord units on adult patients of leukemia.

Today, Jackson often takes his story to Washington, D.C., in hopes of raising awareness and funding opportunities for the American Cancer Society and National Donor Marrow Program. Historically, the national donor program has never been fully funded.

"Our biggest hurdles are manpower, resources and getting this information out to the general public," Jackson said. "If we keep trying and we spend enough money, we will beat cancer. That's a promise. I am a man who was cured by God and because people gave money for research." ■

Saying goodbye to Mr. Snodgrass

by J. Adam Calaway



The chasm between John Snodgrass and I couldn't have been more obvious.

The first time I shook his hand, Mr. Snodgrass was well past 80 years old, and I – just inching toward my 30th birthday – stood on the shallow end of a 50-year gulf of wisdom and experience.

It was about 2007 and then-President Mike Cawley dispatched me to tap into his predecessor's institutional knowledge and discuss a project that had begun during Mr. Snodgrass' tenure as leader of the Noble Foundation.

I have long since forgotten the words we exchanged, but I will never forget the man who said them. Mr. Snodgrass' entire existence felt neatly pressed from his chocolate-colored, pinstriped suit to his ruler-straight office. His presence was organized and welcoming. His words were patient and easy.

From the first moment, John Snodgrass demonstrated the grace and strength of a true gentleman. His demeanor harkened back to an era of professionalism rooted in reserved dignity, where kindness and class were synonyms for strength.

On that day eight years ago, Mr. Snodgrass could have been disinterested or even annoyed by the queries of this unaccomplished junior. He was the hall of famer, and I was the kid still trying to break into the majors. Instead he was simply magnanimous.

We spoke for about an hour, and every minute was filled with a grandfatherly attentiveness. If he was busy or distracted, I never knew.

I left that day with a greater appreciation for all the men and women who had come before me. As a young person, you rarely give much thought to the generations who forged your organization's history, but there he was, a mason of my institution's legacy.

Through the years, he sent me handwritten notes, providing praise about an article he had seen in the newspaper or in our institutional magazine. On rare occasions we'd cross paths at a Noble Foundation event and spend a few minutes chatting. He would shake my hand and ask about my current projects. He'd always provide a word of encouragement, ever the mentor, ever the gentleman.

Mr. Snodgrass died peacefully at home on March 26, 2015. He was 89 years old.

As I read his obituary, I couldn't help thinking about how many other people had experienced his compassion.

Born in Ardmore in 1925, he served in the Navy during World War II until being honorably discharged in 1945. He went on to attend the University of Oklahoma and marry the love of his life, Joan, in the late 1940s. For decades, he worked in business, founded both an insurance company and an investment company, and led a bank. More so, he built an unimpeachable reputation.

Mr. Snodgrass became president and chief executive officer of the Noble Foundation in 1982. Under his thoughtful leadership, the Noble Foundation made great strides in research and expanded its agricultural programs. He served a decade before retiring in 1992. The following year, he was inducted into the Oklahoma Hall of Fame for his dedication to his state.

More than the awards or the business titles, Mr. Snodgrass was known as a servant to his community. He spent the next 14 years after his retirement serving on numerous community boards. He even assumed the role of president of Community Activities of Ardmore and president and CEO of the Southern Oklahoma Memorial Foundation.

In 2006, he again retired – sort of. Mr. Snodgrass still went in to his office and worked. He still attended community board meetings. He still provided counsel to the next generation. That was who he was.

It's funny how the death of a great person has that unusual ability to bring life into perspective. You quickly see the lasting virtues of hard work, consistency and dignity. We may focus on grand accomplishments, but those never endure. It's the little moments of kindness that everyone remembers.

It's what I'll remember about Mr. John Snodgrass. ■



A farmer harvests small grains using a self-propelled Massey-Harris Clipper combine in 1958.

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