

# University Trailblazers

Growing up in agriculture sparked a lifelong interest in serving the industry for these five individuals.

by Kindra Gordon

The beef industry has always been fortunate to have individuals in teaching and research positions who are committed to making a difference. These are the researchers who devote their careers to seeking the answers that will unlock greater potential in the cattle we raise; they are the individuals who are dedicated to helping farmers and ranchers achieve success; and they are the teachers who inspire greatness in the next generation of our industry.

Here, we spotlight five of those individuals who represent the next generation of this elite group of professionals. They share the beef industry goals they hope to accomplish, challenges they've overcome, and advice for others. Included are Guy Loneragan, West Texas A&M University; Mark Allan, Roman L. Hruska U.S. Meat Animal Research Center (MARC); Darrell Mark, University of Nebraska; Duane Wulf, South Dakota State University (SDSU); and Dan Moser, Kansas State University (K-State).

## Guy Loneragan, veterinary epidemiologist

Guy Loneragan grew up in Australia and was involved with his family's cattle ranch. He earned his veterinary medicine degree

from the University of Sydney in 1994. His initial interest was to specialize in cattle medicine and surgery, and in 1995 he went to Colorado State University (CSU) for a one-year internship specifically to work in that area.

Rather than reinforce his focus on individual medicine, the experience at CSU helped Loneragan realize he was

more interested in preventing disease across populations — which he felt offered more opportunity to make a difference.

Thus, he conducted his master's and doctoral research at CSU in epidemiology, with projects looking at sulfur intake through water and its effect on cattle; designing, analyzing and reporting data for the National Animal Health Monitoring System (NAHMS) Feedlot '99 study; and various other studies looking at respiratory disease in cattle.

After graduating from CSU, Loneragan accepted a position as assistant professor of animal science at West Texas A&M University in 2002. His time is split 75% for research and 25% for teaching, which includes advising about a dozen graduate students at West Texas, Texas Tech University, K-State, CSU and Texas A&M University.

The bulk of Loneragan's research focuses on food safety issues such as *E. coli* O157:H7, salmonella, and antimicrobial resistance. His present studies include evaluating strategies to reduce *E. coli* O157:H7 carried by cattle at harvest, and better understanding and quantitatively describing the factors that contribute to antimicrobial resistance in animal products.

"We need to study these factors so that if the data suggest a need, the industry can strategically respond to that need and help maintain and improve the public health benefits of beef," Loneragan says.

On the animal health side, Loneragan has also quickly gained a reputation as a leader in research related to the management of beef cattle in confined feeding operations, particularly in the area of bovine viral diarrhea (BVD).

Working with Dan Thomson, formerly of Cactus Feeders and now at K-State, the duo was among the first to quantify the number of animals persistently infected (PI) with BVD and the effect that these animals have on penmates.

"I think it is important to know how many PIs come into the feedlot, what happens to them, and what happens to the cattle they are in contact with," he says.

Loneragan says the research he's conducted on BVD has just "scratched the surface." There's interest in testing and removing PIs at the feedlot, but it is still unclear if that is economical. More research is needed on the subtypes of BVD and expression of disease, not only in the feedlot but also in the cow herd.

"We have a long way to go," he says. He is driven to find the answers to help the industry progress and says research findings allow the industry the "opportunity to be proactive."

Twenty years from now, Loneragan says, he hopes he can look back and say, "I answered a couple of important questions, whether that's how we can keep antibiotics that are important to us and protect public health, or better understand foodborne pathogens or manage BVD."

Even more importantly, he says, he hopes to look back and see his graduate students succeed and make meaningful contributions to the industry as well.

Loneragan's advice to others is to "be inquisitive, be skeptical — and enjoy what you're doing."

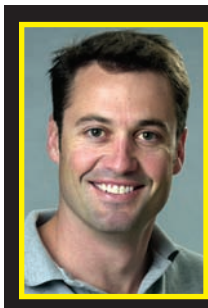
Those are words he lives by. He says every once in a while he sits back and relishes that he is getting paid to do what he enjoys. He counts himself as being fortunate to have funding for his research projects and says no obstacles that have come his way have been insurmountable.

"I just look at them as opportunities," he says.

His biggest challenge: "There are too many projects I'd like to do; I just run out of time," he says, adding that is a good problem to have. "I work with great people, I get to travel and, most importantly, I'm having fun."

## Mark Allan, USDA-ARS researcher

No one is more surprised about his career as a researcher than Mark Allan himself. The Seward, Neb., native grew up showing Horned and Polled Hereford cattle in 4-H



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▶ Mark Allan is hopeful the outcomes of the projects he is working on at MARC will develop tools individuals can use for genetic selection of superior traits — not only for feed efficiency, but multiple traits that affect productivity and profitability.

and junior breed shows. By the time he was in high school, he and his brother had a cattle fitting service that helped pay for his undergraduate degree from the University of Nebraska-Lincoln (UNL).

After graduating in 1990 with a degree in animal science with a business emphasis, Allan thought his college career was complete, and he returned to the seedstock sector as a herdsman and cattle showman.

Allan spent three years working for Adams Bros., a Hereford operation near Kilgore, Neb., and then teamed with John Sullivan, Dunlap, Iowa, from 1993 to 1996, overseeing their Limousin operation.

It was during summer 1996 that a Michigan State student interned with Sullivan Limousin with plans to go on to UNL for a master's degree. Allan told the student to tell her advisor, animal science professor Jim Kinder, "hello" because he had him as a professor during his undergraduate days. When Kinder got the message, he called Allan shortly thereafter and encouraged him to think about what he wanted to do with the rest of his life.

Allan recalls that while taking Kinder's class at UNL years earlier, one of their assignments was to write down a list of goals. Allan's top goal was to manage a large U.S. purebred operation.

The phone call from Kinder reminded him of that, and started Allan thinking about going back to school for a master's degree and a doctorate.

"At the time I was 29 years old and doing well financially," he says, "but I knew in 10 to 15 years I wouldn't be able to handle the physical demands of livestock production."

Allan was hesitant to return to school because he struggled with a reading and writing disability as an undergraduate. But Kinder encouraged him in that regard as well. "He was the first person who said that should not hold me back," Allan says.

Kinder introduced Allan to animal science professor Daniel Pomp, and by January 1997 Allan was enrolled at UNL for his master's degree. He chose to focus on genetics because of his background with seedstock operations in genetic selection and DNA testing. Allan finished his master's

degree in 1999 and his doctorate in 2003. At graduation he was offered several university positions, but felt fortunate to begin directly at MARC in Clay Center, Neb., as a full-time scientist.

His research responsibilities include working with another individual to manage the matings for MARC's well-known twinning cow population and overseeing all research with this population. Additionally, he is heading up the genetic mapping portion of a large-scale project focusing on feed efficiency.

Allan is hopeful the outcomes of these projects will develop tools individuals can use for genetic selection of superior traits — not only for feed efficiency, but multiple traits that affect productivity and profitability. As an example, he points out that a marker for udder quality would be helpful for heifer selection when that trait is not yet observable.

Allan believes his background and practical experience with livestock has brought him full circle. "I understand the industry from a producer's perspective," he says. "I recognize what they are going through and can present the science in a way that helps them relate it to their individual operations."

To that point, he hopes his work as a scientist will be of value to the industry that he enjoys being a part of. Says Allan, "This is not just a job for me. I like the science and the cattle, and this is a way for me to combine the two and give something back to the beef industry."

### **Darrell Mark, ag economist**

Having grown up on a farm in southeastern South Dakota, Darrell Mark always intended to stay close to agriculture. After graduating from high school in 1993, his plan was to stay home and farm with his dad. But, a wet spring that year flooded most of their corn and soybean fields out, and Mark's father sent him off to SDSU.

It was a happenstance event that put Mark on his current career path. "That college education opened all kinds of doors for me," he says in retrospect.

Always having had an interest in



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marketing — his fondest farm memories are of loading cattle and going to the sale barn — Mark majored in ag business at SDSU and graduated in 1997. From there he was on a fast track at K-State, completing his master's degree in a year and a half, and graduating with his doctorate in 2001 — at the age of 26.

Today, the young 30-something represents the next generation of economists for the beef industry as an assistant professor of ag economics and an Extension livestock marketing specialist at UNL.

Mark relishes his role at UNL because it allows him to work with both students and producers. He specializes in marketing and risk management — and it's not just theory. He is still actively involved with his parents in the family farming operation back in South Dakota, from making management decisions to fieldwork. They also manage stockers on pasture in the summer months and feed cattle throughout the year.

As an economist, Mark hopes that his involvement in his own family farm operation gives him credibility. It also gives him insight into some of the difficult industry issues.

"I often try to anticipate the information and education needs of my Extension clientele based on the things we see arising in our own operation," he says.

Because of his real-world experience, Mark says his goal as an ag economist is to help others. "I'm focused on making a difference in people's lives. My role as an educator is to help people identify problems and then help them work through alternatives. Ultimately, that is what farm management and marketing is about," he says.

In addition to his Extension responsibilities, Mark counts his time in the classroom with students as an equally rewarding part of his job. He is an advisor to about one-third of the 220 undergraduate students in UNL's ag economics department and works with a half dozen graduate students as well.

Having been on the faculty for five years, his first crop of students is now graduating. Mark says it is fulfilling to "see them go out and succeed" — and to later hear from them that you did one little thing to help them get where they are.

"I focus a lot on students because they are the future of the beef industry. One of the best ways to affect change is through young people," Mark says. "I've really enjoyed helping train the next generation. I believe it's an opportunity to solve some of our industry's challenges."

Mark's advice to young people looking at

CONTINUED ON PAGE 100

getting involved in the beef industry is foremost to “work hard at working smart.”

He says he appreciates those young people who plan to return to the farm — after all, he was one of them. But, he says, before you do, “Get some business training and learn to protect yourself from the significant risks inherent in farming and ranching . . . Getting an education is not an option. It’s a necessity.”

### Duane Wulf, meat scientist

As a student at SDSU, Duane Wulf enrolled to be on the meats judging team because someone had told him it would help with livestock judging later. Little did he know that it would end up being his career focus.

It turned out that Wulf excelled in the meat science area, and he went on to pursue his master’s degree and to coach the SDSU meats judging team for several years. From that experience, he says he learned that he enjoyed teaching, which prompted him to get a doctorate — and there his interests evolved toward meat research.

He has since dedicated his career to a quest toward helping the industry produce the best beef possible. Presently in his eighth year as a professor in the Animal and Range Science Department at SDSU, his position is divided equally between teaching in the classroom and research aimed at increasing the consistency and quality of meat products.

Prior to his position at SDSU, Wulf was on the meat science faculty at Ohio State University, and before that he conducted research for his doctorate at CSU. His studies have looked at the gamut of factors affecting beef quality — from live animal genetics to cooking methods. Currently, he’s conducting a research trial evaluating different feedlot scenarios and the effect on the end meat product.

Wulf’s research has earned numerous accolades and adoption by the industry. Some of his first work using color to predict tenderness is being used today in branded

beef programs. Additionally, Beef Products Inc., the world’s leading manufacturer of boneless lean beef, headquartered in Dakota Dunes, S.D., has utilized research findings by Wulf in regard to enhancements that increase meat pH, and ultimately increase juiciness and tenderness.

One of his current projects is to publish a beef yields booklet that will compile all of the cutability research in one place.

“One of the most common questions we get is ‘How many ribeye steaks are in a steer?’ The first step in the meat business is to know how many pounds you’ll get. So, hopefully this booklet will be a tremendous resource for the industry,” he says.

While his research successes have been rewarding, Wulf values his teaching efforts as the most important avenue for contributing to the meat industry and society as a whole.

“I put a lot of emphasis on my research, he says, “but I believe the greatest impact I can have is on those I teach, because they are the future leaders.”

To that end, Wulf says the most fulfilling part of his career is seeing students be successful because of some role he may have had.

“I try to teach students to do their best and to recognize the opportunities they have,” Wulf says. “It is the day-to-day hard work that eventually pays off. There’s no such thing as ‘get rich quick.’”

Those are life lessons Wulf credits to learning from his dad, the late Leonard Wulf who founded the well-known Wulf Limousin at Morris, Minn. “The biggest influence in how I go about my work on a day-to-day basis was my dad. He taught me to work hard, help others, and don’t worry about who gets the credit,” Wulf says.

Wulf’s philosophy toward people goes back to a Zig Ziglar quote that his father often repeated: “You can have everything in life you want if you will just help other people get what they want.”

Like many of his colleagues, Wulf says his biggest challenge is having so many research projects he’d like to pursue, it’s difficult to get to them all. He is thankful that the beef checkoff is still in place because he says that is one of his primary research funding sources.

Wulf’s passion for bettering the beef industry spills into his off-campus interests as well. He and his wife, Ann, have founded Cornerstone Ranch Beef, in which they produce beef using a total quality management (TQM) system; they are direct marketing it on a small scale.



► While K-State’s Dan Moser enjoys the research, his passion is teaching. In addition to teaching numerous courses in genetics and animal breeding, he advises 50 undergraduate students and a handful of graduate students.

### Dan Moser, breeding and genetics professor

A Kansas native who grew up on a small purebred cattle operation, Dan Moser credits his involvement in 4-H and junior Angus and Hereford breed association activities with being a large influence on his career path.

That background led to his study of animal science at K-State from 1987 to 1991, and it was through his participation on the K-State meats and livestock judging teams that he decided to pursue graduate school with a focus on breeding and genetics.

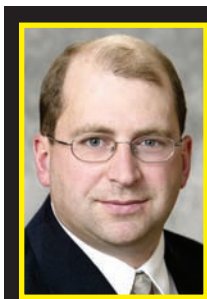
Moser tells that his career goals changed several times — from wanting to be an Extension educator to working for a semen company or breed association. Because of his interest in expected progeny differences (EPDs) — which were relatively new and still somewhat controversial in the late 1980s and early 1990s — he decided to go to graduate school at the University of Georgia, where much of the EPD work was being done.

While at Georgia, serendipity stepped in and pointed Moser toward his future career as a professor and researcher. Shortly after beginning work on his master’s degree, the livestock judging coach left and Moser was tapped to fill in. He enjoyed the teaching aspect and also assisted with teaching the beef production course. As he pursued his doctorate, his role as an instructor was expanded to include teaching the live animal evaluation class, as well as developing an animal issues course.

Looking back, Moser says those opportunities to be in the classroom were a unique opportunity that he is grateful to have had.

After finishing his doctorate in 1997, Moser was on the faculty at UNL for a couple of years before a faculty position in breeding and genetics allowed him to return to his roots at K-State in 1999. Today, Moser splits his time equally between teaching and research.

His research projects have included



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studies on ultrasound and EPD data, as well as a large role in the National Cattlemen's Beef Association (NCBA) Carcass Merit Project that was completed in 2004. Moser says that project was a great opportunity to expand his knowledge while also serving as a resource for the industry.

"I'm a better geneticist because of it," he says.

Moser is presently working on a feed efficiency selection project with support from the American Angus Association. The study, which is in its third year, is using data from Australia's feed intake estimated breeding values (EBVs) to identify the highest and lowest American Angus sires in that database for feed efficiency. The first

heifers are now on trial to see how well feed intake and other efficiency factors can be predicted.

While Moser enjoys the research, his passion is teaching. In addition to teaching numerous courses in genetics and animal breeding, he advises 50 undergraduate students and a handful of graduate students.

He especially admires the caliber of students that K-State attracts. "Every year we get a new crop of students, and they know a lot and challenge us. I enjoy that and think it keeps me young," he says.

Of the future, he says, "I hope my biggest impact would be through my students. The ideal vacation for me 20 years from now

would be taking a month to travel and visit my former students to see how they've applied what we've learned and [how they] are impacting the industry."

Looking back on his career thus far, Moser says one of the best pieces of advice he got years ago while in graduate school came from John Crouch, who was director of breed improvement for the American Angus Association at the time. "We were talking about different career opportunities," Moser says. "I remember he said he loved his job, but he also said, 'I imagine there's something special about working on a college campus.' — and he was right."

