

LEADERS IN Agriculture

CALS ALUMNI HELP FEED, CLOTHE, AND CARE FOR THE WORLD

ONE OF THE HIGHEST AND MOST NOBLE AMBITIONS is to feed, clothe, and care for the world—and that's exactly what so many MSU College of Agriculture and Life Sciences' alumni do every single day. It's a humble endeavor and yet so many of our alumni build careers on finding ways to feed, clothe, and care for a growing population and do so with fewer resources, in less time, under greater environmental pressures. This day-in and day-out translates to careers that leave lasting legacies in the industries these alumni serve. Read how George King, a lifelong producer brings passion and dedication to the job every day, both as farmer and president of the Delta Council. Learn how Victoria Hall tracks down illnesses as a disease detective for the Centers for Disease Control and Prevention. Discover how Catherine Montgomery puts food in hungry bellies as programs manager for the Mississippi Food Network.



Pictured on the opposite page is row-crop producer George King, co-owner of Nelson-King Farms and president of the Delta Council. Top photo is Catherine Montgomery, program manager for the Mississippi Food Network. Bottom photo is Victoria Hall (far right) and colleagues in the Centers for Disease Control.



King of the Row remembers roots, with eye on future growth

By Kenner Patton

FOR MANY, FARMING IS MUCH MORE than a career; it's a way of life. It isn't just in the blood, it's in the mud stuck on a farmer's boots and the sweat on his brow. In this regard, George King is no exception. As Delta Council president and row-crop farmer with nearly 45 years' experience in the field, this leader in ag is clearly king of the row.

King started "farming" when he was just 15 as he helped long-time Leland, Mississippi farmer, Ray Beckham, in the summers.

"I learned a lot from Mr. Beckham, but the most important lessons had nothing specifically to do with farming. The two most important instructions were to work hard and always be on time," King said. "Those messages followed me the rest of my life, and I hopefully have passed them down to my four children. I try to stick to them every day."

In 1985, King began working with his cousins, the McCaskill brothers: Jeffery, Tommy, Danny, and Robert.

"Working there I got to do every job imaginable on the farm. But my main job was driving a dirt bucket tractor to precision-level land for irrigation," King said. "That was a great experience for my next career step when my father-in-law, Boots Nelson, and brother-in-law, Tommy Nelson, and I formed a partnership that created Nelson-King Farms, LLC in 1987. Those friendships and partnerships are still strong today."

The Nelson-King Farm now spans 6,500 acres and is nestled between Lake

Washington and Lake Jackson in south Washington County, concentrating on a rotation of corn and soybean. King and his partner, Tommy, have been fortunate that Nelson-King Farms now includes their wives and two of their sons as part of the farming operation.

"The daily hands-on operation has fallen to my son and nephew while I concentrate on managing our grain bins, dirt moving operation, finances, FSA requirements, and new technology," King said.

King is also quick to acknowledge the benefit of mentors and long-term relationships in his life.

"I have been involved with Delta Council for more than 20 years, and this year I am honored to serve as president. Through Delta Council, I have been really fortunate to work with some great leaders in agriculture. Tom Robertson, John Phillips, and Chip Morgan have been instrumental in helping me continue

to grow and learn more about ag. And I would not even be in this business if it wasn't for my father-in-law, Boots Nelson."

After receiving his bachelor's degree in agronomy from Mississippi State University in 1983, King reflects back on how much agriculture has changed.

"When I first started farming back in the '80s, we were just trying to run a lean operation and make a living. But decades later, we've been fortunate enough to have survived through some lean times and celebrate the better years. Looking forward, I think helping solve the water and irrigation issue will be our next greatest challenge," King said. "I also think a lot about our younger farmers and continue to wish them the blessings I have received. I encourage them to get the best education they can. And I also tell them to remember the lesson Mr. Beckham taught me long ago, 'Don't nothing ever take the place of hard work.'"



'Disease detective' uses vet education to sniff out public health threats

By Susan Lassetter

AS A DOCTOR OF VETERINARY medicine, Victoria Hall wouldn't seem a natural fit for investigating human epidemics. However, it's her background in agriculture and animal sciences that make her a valuable part of the Centers for Disease Control and Prevention.

The Mississippi State alumna is what's known as a "disease detective" in the CDC's Epidemic Intelligence Service. Chosen from a highly competitive pool of applicants that include physicians, scientists, and skilled nurses from across the country, these young professionals chase down outbreaks and disease to sleuth out what is happening and how to keep the public safe.

"We rely on veterinarians in applied epidemiology because they are trained to assess the health of an individual as well as the health of the population," explained Eric Pevzner, chief of the Epidemic Intelligence Service program. "These skills contribute to our multidisciplinary approach of addressing public health."

The CDC uses a concept called "one health" to serve the public good. It is the idea that human, animal, and environmental health are all closely related and that addressing emerging health problems requires collaborative efforts across these disciplines. Hall said she began to really embrace this idea during a semester studying wildlife management in Kenya.

"During that semester, it became very apparent that you couldn't ask people to care about elephants when the elephants were stomping on crops and causing families to go hungry," Hall recalled. "I really became aware that if you helped people grow healthier animals and have safer food supplies you could really help grow a community and its capacity to do a lot of things. That was my first introduction to improving community health."

A native of Cincinnati, Ohio, Hall came to Mississippi State as part of the College of Veterinary Medicine's early entry program, which pre-admits students to its ranks in an effort to smooth their

transition from undergraduate to medical degree. She completed a bachelor's in animal and dairy science in 2011 and finished the vet program in 2014.

During that time, she also completed a number of international placements, including time with the Food and Agriculture Organization of the United Nations in Italy and Vietnam, a One Health summer school program in Uganda, a World Vets project in Nicaragua, and a summer aboard a Navy ship in the south Pacific—all of which inspired her to continue her studies at Mississippi State and complete a master's in preventative medicine in 2015.

"It was such a blessing to be in an environment like Mississippi State University that was so supportive to me pushing the limits of what a vet can do in the public-health world," Hall explained.

"My time at Mississippi State sparked this desire to serve," she continued. "It became about how to find the best information and the best science to put into the community and drive good policy, decisions, and programs to help it succeed."

Now in her final year of the two-year CDC training program, she is stationed with the Minnesota Department of Health. There she works with the state's Unexplained Deaths and Critical Illness Program to investigate fatalities that have no clear cause.

"With emerging health threats, people are getting affected by disease before we even know it exists," Hall explained. "Since death represents the most severe manifestation of disease, this system allows us to look into unexplained deaths to find rare illnesses or common illnesses that present uncommonly and identify growing threats."

Basically, it's Hall's job to expect the unexpected. And it's this way of thinking that helps her find the reason behind many of Minnesota's unexplained deaths and how they might be interconnected—like those related to the habitual use of opioid-based painkillers such as morphine, hydrocodone, or oxycodone.

Take the case of a middle-aged Minnesota man who died suddenly and at home. He regularly took prescription medication for back pain, and in the

two days prior to his death had shown mild indications of feeling ill and began slurring his words. Testing from the medical examiner diagnosed influenza pneumonia and revealed a high level of opioids in his system.

In this instance, it was a common illness presenting uncommonly that raised the red flag for Hall and her colleagues. Pneumonia wouldn't ordinarily be fatal to an otherwise healthy man in his 40s, but Hall said it's likely his use of opioid painkillers made him more susceptible to the infection or allowed it to become more severe.

"By using this unexplained-deaths program we've been able to look at the opioid epidemic from the infectious disease standpoint," Hall said. "We know opioids can impact the immune system and have side effects that make it easier for something like pneumonia to set in. What we've seen is that even prescribed levels of these drugs can be deadly if combined with infectious disease.

"We've seen a good number of cases with such profound infectious disease it was the only thing written on the death certificate," Hall continued. "With no mention of the very high levels of morphine, these deaths don't get counted in opioid-related death surveillance, which means the problem could be underestimated."

Hall reports that more than half of the opioid-related fatalities identified through her work were not captured in the statewide opioid surveillance data. Because Minnesota is low on the list of severity when it comes to states facing an opioid crisis, it's possible the problem is much greater nationwide.

"Ninety-one Americans die each day from an opioid overdose and in 2015, there were over 33,000 deaths related to opioids, more than any year on record," Hall explained. "Opioids don't discriminate against the young or the old, men or women, rural or urban. We find it in all areas. With the number of opioids being prescribed quadrupling in the last decade, it makes for a very complex public health threat that we need to address from a lot of different angles."

CALS Alumna Tackles Childhood Hunger in Mississippi

By Sarah Buckleitner

WHETHER IT'S FEEDING HER parents shepherd's pie at 11 years old or feeding thousands of children across Mississippi each month, CALS alumna Catherine Montgomery has found the recipe to success.

Mississippi has the highest food insecurity rate in the United States: 28.3 percent of the state's children do not have reliable access to affordable, nutritious food. But Montgomery is working to change that. In her position as programs manager at the Mississippi Food Network, an organization dedicated to fighting food insecurity in Mississippi, she runs several programs that put food in the bellies of both hungry children and adults.

"I oversee our summer feeding, backpack, and school pantry programs. For each of these, I'm involved from the beginning to the end—I plan menus, order food, plan logistics, and manage sites. This last year we were able to begin packing our own backpack meals for children in house," Montgomery explained.

These programs each help ensure that children have access to food even when school isn't in session. Each program addresses a different need and the summer program has provided an average of 48,000 meals over three years to kids over the summer months. The backpack program, which provides kids with a backpack stuffed with three pounds of shelf stable foods each weekend, has also been especially successful.

"The physical act of giving children a meal is really fulfilling, so we have some great supporters. Every Friday, we feed 1500 kids through that program," Montgomery said.

But Montgomery's favorite project is one that she has been involved with

since the beginning: the school pantry program.

"I got funding and implemented this program with the help of the team at Mississippi Food Network. For this program, we physically go in with a group of volunteers—the Junior League of Jackson—and set up a mobile food pantry once a month so that families in the community can pick up fresh produce and shelf stable foods. We supply an average of 60-65 families each with 18-20 pounds of food every month," Montgomery said.

Montgomery especially loves this program because she gets to know the families who regularly come.

"We have this one little girl who comes with her mom every single month. I've gotten to know them over the course of the year. And one time she spotted me from down the hallway, and just dove into my arms," Montgomery said.

Montgomery herself has always had a keen interest in food.

"I was always intrigued by what my mom was making in the kitchen, and when I turned eleven, I asked for a cookbook of my own. I made a shepherd's pie recipe from it, and that's what my family ate for dinner that night," Montgomery reminisced.

When it came time to pursue her college education and eventual career, Montgomery knew right where she belonged.

"We are multi-generational Bulldogs. We grew up coming to games, and we have Thanksgiving and Christmas in Starkville. I didn't really have an option as far as my family was concerned, but I didn't want an option," Montgomery said.

While it took her awhile to determine her eventual major, she finally settled on



nutrition. With the help of her mentors, Lynn Burney and Chiquita Briley, she quickly began to thrive in the field.

"Dr. Burney was always very supportive of me. I knew I could always stop by her office for a life chat. And it was Dr. Briley who first encouraged me to pursue a job at the Mississippi Food Network, even though jobs there were highly competitive," Montgomery said.

Montgomery first uncovered her passion for addressing food issues by volunteering with the Mississippi Food Network for the field experience hours that are required for the nutrition major.

"Before volunteering with them I wasn't

oblivious to the need, but it wasn't in the forefront of my mind. But then I saw these children lined up at a church waiting for a hot meal, and I realized that might be all they get that day. That lit my fire," Montgomery explained.

To this day, she still feels the influence of her MSU education.

"By requiring us to have dietetic internships, I was able to see how important a community dietitian was, and how one person could have a large impact on the health of an entire community," Montgomery said.

When asked what she'd recommend for other people who want step in to help

end hunger in Mississippi, Montgomery had a slew of suggestions.

"People can volunteer to help pack boxes, host their own food drive, or donate money directly through the website or through Amazon Smile," she said. For more opportunities to get involved, visit the Mississippi Food Network at www.msfoodnet.org.