STORIES

IN AGRICULTURE AND LIFE SCIENCES

IOWA STATE UNIVERSITY
College of Agriculture and Life Sciences

MY CALS ADVANTAGE

VOL. 13 NO. 2, 2019

STORIES

IN AGRICULTURE AND LIFE SCIENCES

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IOWA STATE UNIVERSITY
College of Agriculture and Life Sciences

BUILDING THE CALS ADVANTAGE

Agronomy professor Mary Wiedenhoeft has been a teacher and mentor to many CALS students and alumni over the years – myself included. She was the adviser for Sigma Alpha, the professional sorority for women in agriculture I belonged to as an undergrad and now advise. And Mary was an unwavering supporter for me during my early years as a communications professional.

Mary was honored as a Morrill Professor this fall, a title conferred to faculty who demonstrate outstanding success in teaching and learning as reflected by national or international reputation.

"I am honored, beyond belief. I thought I was just doing my job," Mary told me. "My parents taught me excellence; my faith provides the passion for people; my husband, family, colleagues and friends give me strength. It takes a village to receive honors like the Morrill Professorship."

Mary's words stuck with me as I approached this issue of STORIES. It also takes a village to create the outstanding student experience available for CALS students. Many professors like Mary don't just teach in the classroom, they also advise, work with student groups and supervise students in their research (read more about Mary's work with the Good Earth Student Farm on page 28). Assistant teaching professor of food science Kate Gilbert shares a similar sentiment about helping students find careers they are passionate about (see page 24).

Together faculty and staff create opportunities for our students to build their own unique CALS advantage. In the pages that follow, you'll meet exceptional students who are becoming experts in their disciplines, finding their voices for advocacy, innovating and pursuing entrepreneurism and emerging as leaders – all qualities that Endowed Dean's Chair Daniel J. Robison speaks about that define the CALS student experience.

I invite you to reach out to those who made your student experience so special here. Let me know if I can help connect you. I'd love to hear what helped you create your own CALS advantage – share your stories with me at stories@iastate.edu or post on social media using #CALSstories and I'll compile online to share.

Please make plans to join us at our annual CALS Cyclone Women's Basketball pregame party on Feb. 8, 2020. We'll be sharing stories, reconnecting and cheering on the Cyclones. Watch your inboxes and STORIES Online e-newsletter for details.

Warm wishes from central campus,

Melea Reicks Licht

CONTENTS

ON THE COVER

Students build their unique CALS Advantage in and outside the classroom. Agricultural education and studies students **Joy Van Wyngarden** and **Cameron Mews** get hands-on experience in welding during an ag mechanics lab at the Ag 450 Farm – a student-run crop and livestock operation.

Image by McClanahan Studio

Greetings alumni and friends!

Since I arrived on a very cold day in January 2019, I have learned a great deal about this terrific college and university, the great state of Iowa and the global impact of both. I have had wonderful opportunities to travel the state and meet many people who work every day to advance the causes we care deeply about — from farming to milling, soils to livestock, crops to trees, schools to communities, and from the basic biology that underlies much of what we do to the energy and machines that make our work possible.

All this matters, and our faculty, staff and students know it! We are more than 300 faculty, more than 300 staff and more than 4,800 undergraduate and graduate students. We are a dynamic enterprise that is pushing forward and adapting to enable the next generation of thinkers and doers, to discover the underlying life and social sciences that enable us to better understand and manage our agriculture and natural resources, and to develop the technology to do so most ably.

The College of Agriculture and Life Sciences is busy sustaining its excellence and embracing new possibilities. This issue of STORIES magazine brings you exciting news about the accomplishments, successes and outlooks of people who make up this great college. There is much to be proud of, and much to be optimistic about — even though the challenges in front of our communities, industries and landscapes are as significant as they've ever been.

We are ready to take on these challenges. We are:

- Continuing our strengths in teaching, research and extension and our worldwide reputation for excellence
- Communicating to prospective students about what I call our "CALS Advantage": advocating for what's important; innovating with an entrepreneurial mindset; grounding yourself in your discipline; and becoming a leader
- Attracting new students to join us as part of the Cyclone community, and promoting their success
- Supporting an inclusive, welcoming culture on campus, and valuing the diversity our students, faculty and staff bring to every discussion
- Emphasizing how our programs can address both more local issues and more global challenges
- Building our revenue streams through innovation, efficiency and new ideas
- Serving Iowans more deliberately through agriculture and natural resources extension and outreach

As you read the news and insights in STORIES magazine, I hope you'll think about how we can all work together to make the college better. We are working hard to sustain and grow the highest level of excellence possible at a time of tight budgets and rising costs. We need your time, treasure and talents — and, significantly, your ideas. We welcome your ideas on how to foster new programs for extension and outreach; how to develop new partnerships in Iowa, across the country and beyond; how to attract the next great generation of students from every background and locale; and how to target the most important research projects and student experiences. Please help us do so by sending your ideas. Think about what kinds of efforts you might support. It all matters, and enables us to do more and better.

Touch base with the contacts provided in the stories you are about to read. They'd welcome a conversation and the opportunity to give you more information. And, of course, you can always touch base directly with me.

On behalf of the entire college and all its friends and partners, I send you our very best! Go Cyclones!

Daniel J. Robison
Endowed Dean's Chair
College of Agriculture and Life Sciences
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CY'S THE LIMIT

CALS STUDENTS SHINE DURING HOMECOMING 2019

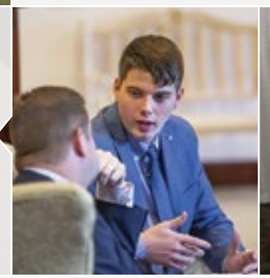
- The **Agricultural Business Club at Iowa State University** received the Iowa State University Alumni Association Impact Award. The award recognizes individuals, businesses, organizations or units whose programs or accomplishments brought broad recognition to the university. The Agricultural Business Club is the first student organization to win the award. The club is one of the largest and most active student organizations on campus. It was established in 1954 and endowed by Farm Credit Services of America in 2015.
- **Kayla Kaalberg** (right) (senior, global resource systems, agriculture and society, Spanish) was one of 10 finalists receiving the Cardinal Court Scholarship. Students nominated to the Cardinal Court are recognized for their academic achievements, campus leadership, character and service to community.
- Seven CALS students served on the 2019 Homecoming Central Committee. Students organized a week of activities for alumni, students and friends around this year's theme, "Cy's the Limit."
  - **Heidi Fichter** (senior, ag and life sciences education), Community Service Committee
  - **Trey Boyle** (junior, ag business) Cardinal and Gold Tournaments Committee
  - **Hunter Crawford** (sophomore, ag business), Special Events Committee
  - **Shane Dierickx** (senior, ag business), Campus Involvement Committee
  - **Lilian Swanson** (junior, ag business), Cardinal Tournaments
  - **Cody Mead** (junior, ag business), Logistics Committee
  - **Cole Moody** (senior, ag studies), Displays Committee

WHERE MUSIC AND ENTREPRENEURSHIP MEET

EllieMae Millenkamp (senior, ag business), was featured on season 17 of NBC's "The Voice", a reality show using blind auditions to find the industry's new talent. Millenkamp, originally from Idaho, was selected to perform on county-music star Blake Shelton's team. While she didn't advance within the show, Millenkamp noted she used the skills learned through College of Agriculture and Life Sciences entrepreneurial courses to create her business, EllieMae Music.

CALS STUDENT APPOINTED TO BOARD OF REGENTS

Zack Leist (junior, ag business, economics, international ag) has been appointed to the Board of Regents, State of Iowa, by Governor Kim Reynolds. Leist serves as chair for the travel committee for the student Agricultural Business Club. He's head of finance for Alpha Gamma Rho and has served as a CALS Ambassador.



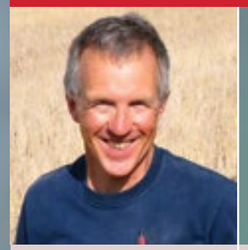
SUCCESS FOR CALS STUDENT TEAMS:

- **Agricultural Business Club**: Outstanding Club Award, Agricultural and Applied Economics Association
- **Dairy Judging Team** (above right): third place overall and reasons, Central Star Accelerated Genetics Dairy Cattle Judging Contest; third place reasons and fourth place overall, Intercollegiate Dairy Cattle Judging Contest at the World Dairy Expo
- **North American Colleges and Teachers of Agriculture**: Overall Sweepstakes Award
- **Power Pullers**: first place written design report and third place design judging, Association Society of Agricultural and Biological Engineers International Quarter-Scale Tractor Student Design Competition
- **Horticulture Club**: first place, 2019 Mid-American Collegiate Horticultural Society Competition
- **Livestock Judging Team**: high team overall, Aksarben Senior Collegiate Livestock Judging Contest
- **Soils Judging Team**: second place, Central Region Collegiate Crops Contest

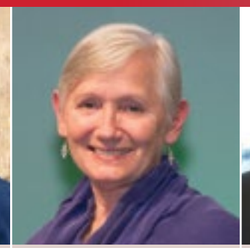
CALS ALUMNI, FRIENDS **HONORED BY COLLEGES, ISU ALUMNI ASSOCIATION**

CALS graduates and friends were honored by Iowa State University for professional excellence and service during Homecoming events in October. To learn more about CALS alumni awards and the 2019 honorees visit www.alumni.cals.iastate.edu.

CALS AWARDS:

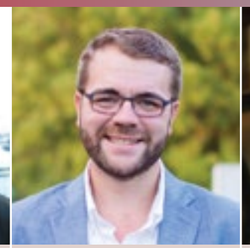


Floyd Andre Award, **Steve Berger** ('86 ag business), farmer, conservation leader, Wellman, Iowa



George Washington Carver Distinguished Service Award, **Diane Birt**, Distinguished Professor, ISU Department of Food Science and Human Nutrition

Henry A. Wallace Award, **Dhamu Thamodaran** ('83 PhD economics), executive vice president, chief strategy officer and chief commodity hedging officer, Smithfield Foods, Inc.

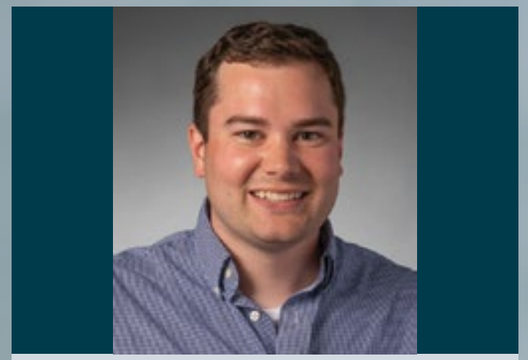


Outstanding Young Professional Award, **Kelly Norris** ('08 horticulture, '11 MS), director of horticulture and education, Greater Des Moines Botanical Garden

Outstanding Young Professional Award, **Mike Taylor** ('03 ag studies), co-founder and partner, Midwest Growth Partners

ISU College of Human Sciences Award:

Virgil S. Lagomarcino Laureate Award, **Larry Ebbers** ('62 ag and life sciences education, '68 MS, '71 PhD education), University professor emeritus, ISU School of Education



ISU Alumni Association Award:

James A. Hopson Volunteer Service Award, **Ben Zelle** ('14 ag business, management information systems), territory customer support manager, John Deere

HARL ELECTED TO ESTATE PLANNING HALL OF FAME

Neil Harl ('56 ag and life sciences education, '65 PhD economics), retired Charles F. Curtiss Distinguished Professor in Agriculture and Life Sciences, was elected to the National Association of Estate Planners and Councils Estate Planning Hall of Fame® and recognized as a Distinguished Accredited Estate Planner®. The award is given in recognition of distinguished service to the field of estate planning and was presented Nov. 7 at a ceremony during the organization's annual NAEPC Advanced Estate Planning Strategies Conference.

CALS ALUMS AMONG SEED INDUSTRY'S TOP YOUNG LEADERS

Five college alumni have been recognized as part of *Seed World*'s 20 under 30 future leaders in the seed industry. Honorees were selected as part of a nomination process.

- **Austin Dobbels** ('13 agronomy, ag biochemistry), graduate student, University of Minnesota
- **Josh Earll** ('16 ag and life sciences education), district sales manager, Bayer Crop Science
- **Katelyn Fritz** ('19 global resource systems), graduate student, North Carolina State University
- **Andrew Lauver** ('12 ag studies), manager of industry relations, Syngenta
- **Kyle Parmley** ('16 MS plant breeding, '19 PhD), soybean germplasm enhancement breeder, Bayer Crop Science

CALS ALUMNI EARN TOP NATIONAL AWARDS

- **Tom Annear** ('75 fisheries and wildlife biology), retired last year as the Wyoming Game and Fish Department water management supervisor after nearly 38 years with the department, Carl R. Sullivan Fishery Conservation Award, American Fisheries Society
- **Walter Armstrong** ('84 ag and life sciences education), key account manager with Bayer CropScience, 2019 International Certified Crop Adviser of the Year, American Society of Agronomy
- **Min Du** ('01 PhD animal science, food science and human nutrition), professor and Endowed Chair in Growth Biology with Washington State University Department of Animal Sciences, Animal Physiology and Endocrinology Award, American Society of Animal Science
- **Peter Ferket** ('87 PhD animal science), extension poultry nutritionist, director of the Animal Food and Nutrition Consortium and associate head of the Prestage Family Department of Poultry Science at North Carolina State University; American Feed Industry Poultry Science Association Poultry Nutrition Award
- **Cassie Jones** ('12 PhD nutritional science), associate professor with Kansas State University Department of Animal Sciences and Industry, 2019 American Society of Animal Science Early Career Achievement Award
- **Dustin Loy** ('05 animal science, '09 DVM, '11 PhD vet microbiology), molecular diagnostician in the Nebraska Veterinary Diagnostic Center and faculty member in the School of Veterinary Medicine and Biomedical Sciences, Excellence in Diagnostic Microbiology, American Association of Veterinary Laboratory Diagnosticians
- **Doug Reynolds** ('95 ag and life sciences education), U.S. leader for Marketing and Digital Communications at Corteva Agriscience, 2019 Professional Development Award of Excellence, National Agri-Marketing Association
- **Luis Verde** ('01 MS plant breeding, '03 PhD), maize product development director of Latin America and global sorghum lead for Corteva Agriscience, 2019 Plant Breeding Impact Award, National Association of Plant Breeders

STORIES Online E-newsletter

Get updates like these, news from campus, class notes and invites to CALS events sent directly to your inbox between issues of STORIES magazine by subscribing to the monthly STORIES Online E-newsletter.

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ADVANCING
FEED AND GRAIN SCIENCE

Story by Betsy Snow Hickok
Image by Bob Elbert

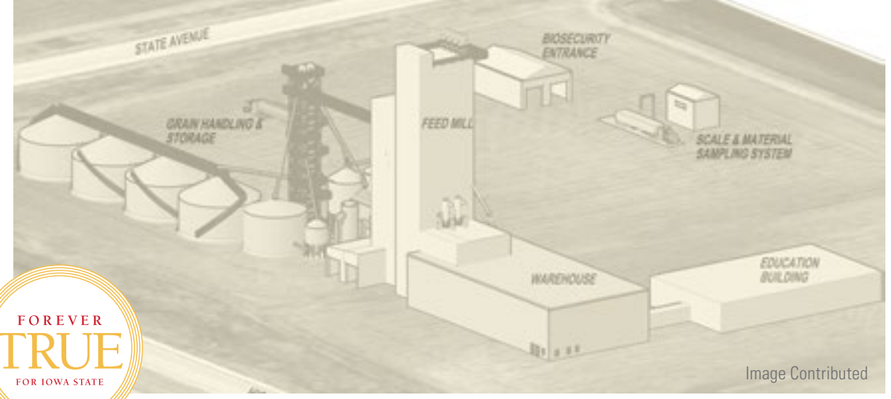


Image Contributed

FOREVER TRUE FOR IOWA STATE

You can't be a world leader in livestock production, as Iowa is, without also producing the feed to support the industry.

Over the past decade, commercial feed consumption within the state has doubled to 15 million tons. And feed mills throughout Iowa and the Midwest produce much of the corn and corn-based feed products for the pork, beef, dairy and poultry industries nationwide.

"The feed, grain and livestock sectors are key to the success of agriculture in Iowa," says Iowa State University President Wendy Wintersteen. "As a top land-grant university, Iowa State is at the forefront of critical and cutting-edge research, education and extension programs that support these important sectors."

Thanks to a teaching and research complex under construction near campus, Iowa State soon will take the lead in preparing in-demand professionals for the industry. On September 13, the university broke ground on the Kent Corporation Feed Mill and Grain Science Complex.

Wintersteen says the facility, "strengthens our ability to carry out our mission" by providing an advanced setting for teaching and research related to feed technology, grain science and animal nutrition, as well as for continuing education and extension.

"This complex will have a huge impact not only for the state of Iowa, but also for the agriculture industry as a whole," says Mike Gauss, president of Kent Nutrition Group, a well-known provider of animal feed and food products that provided the naming commitment of $8 million in 2017. "Kent Corporation takes pride in partnering with institutions like Iowa State, which not only recognized that our industry had a need for a world-class feed and grain science complex but has brought forth a solution in response to this need."

When the facility is completed in the summer of 2021, it will provide a learning center for students in majors such as animal science, agricultural biosystems engineering and agricultural business, as well as those pursuing a new minor in feed technology. The minor was developed by faculty in the agricultural and biosystems engineering department along with faculty in the animal science department – and debuted in fall 2019. Feed for animals housed at university teaching and research farms will be produced at the feed mill and grain science complex, and students and industry trainees will use the complex to learn how to keep the food system secure and sustainable.

"This partnership is about helping to build something great today, so we can continue to work together to advance the industry through the learning and research that will go on within it," says Daniel J. Robison, holder of the Endowed Dean's Chair in the College of Agriculture and Life Sciences. "We look forward to partnering with those who made such generous commitments to this project now and far into the future so our students and our faculty benefit – as well as the people in Iowa companies and communities."

Located on approximately 10 acres of university-owned land southwest of the intersection of Highway 30 and State Avenue in Ames, the complex will include a feed mill tower, feed milling and mixing structures, grain storage and handling facilities to hold 180,000 bushels and a one-story classroom and laboratory building.

Leaders in the industry have generously partnered with Iowa State to bring the $21.2 million complex to fruition. In addition to Kent Corporation, other lead commitments for the project were provided by the Iowa Corn Promotion Board, which committed $4 million; and Sukup Manufacturing Co., which committed $2 million of in-kind support.

Roger Zylstra, president of the Iowa Corn Promotion Board, notes that the grain feed and livestock industry must continue to improve production and efficiency if it is to remain viable and competitive in the future, which requires having quality professionals to move into this important agricultural sector.

"This complex will fast-track our ability to train individuals entering the Iowa workforce," Zylstra says. "It will also be a state-of-the-art venue to invite and host international trade teams, and will provide a competitive advantage for the U.S. in the global feed and grain industry."

> "The feed, grain and livestock sectors are key to the success of agriculture in Iowa."

Charles Sukup agrees. "Our mission is to protect and preserve the grain that feeds the world. Key factors to our success as a company have been innovative ideas and our dedicated workforce," says Sukup, president of Sukup Manufacturing Co., the largest family-owned, full-line grain drying and storage equipment manufacturer. "That's why we are excited that Iowa State's plans for the feed mill and grain science complex will focus on innovation in support of the grain and feed industries, education of the next generation and continuing education that helps our workforce and customers keep up to speed on the latest developments."

Additional gifts include a $2.6 million commitment by California Pellet Mill (CPM) of Waterloo and a $1.5 million gift from the Iowa Crop Improvement Association. CPM, a leading supplier of animal feed processing equipment, is providing equipment for the complex.

"We are excited to support Iowa State's new feed and grain technology minor and its new facility," says Jim Hughes, general manager of the company. "Students from around the world will have leading-edge equipment and automation that will benefit them for many years to come."

Jim Rouse, executive director of the Iowa Crop Improvement Association, a nonprofit organization affiliated with the College of Agriculture and Life Sciences that serves as the official seed certifying organization for the state of Iowa, also sees the complex as a hub for expanding new opportunities related to plant science and seed science.

"Our commitment reflects part of our nonprofit mission to support education and research in these fields," says Rouse. "This site will be important for students to explore many aspects of the crop, seed and grain industries, and for Iowans working in these industries to keep up-to-date through extension education and training."

Left: Ground was broken Sept. 13 for Iowa State University's new Kent Corporation Feed Mill and Grain Science Complex. Officials at the ceremony included, left to right: **Larissa Holtmyer Jones**, president, ISU Foundation; **Daniel J. Robison**, dean, ISU College of Agriculture and Life Sciences; **Jim Rouse**, executive director, Iowa Crop Improvement Association; **Gage Kent**, CEO, Kent Corporation; **Roger Zylstra**, president, Iowa Corn Promotion Board; **Charles Sukup**, president, Sukup Manufacturing Co.; **Jim Hughes**, general manager, CPM; and **Wendy Wintersteen**, ISU President.

CLASSROOM CONNECTIONS

BOLSTER SCIENTIFIC UNDERSTANDING

Story by Susan Thompson
Image by Barb McBreen

As a young person, Karri Haen Whitmer had a profound fear of public speaking.

"I dropped out of my undergraduate speech class at least once before I was able to finish the requirement," she says. "I remember being called on to speak and only shaking my head no to indicate to the professor I wasn't going to do it. I definitely did not plan on teaching large classes at the university level."

Yet Haen Whitmer, associate teaching professor in genetics, development and cell biology, conquered her fear. And in 2019, she received the Iowa State University College of Agriculture and Life Sciences' Excellence in Teaching by Lecturers and Adjunct Faculty Award.

Haen Whitmer earned her bachelor's degree in microbiology and chemistry at Kansas State University. She got her feet wet in front of a classroom as a teaching assistant and lecturer while working on her master's in plant sciences at North Dakota State University. When she moved to Iowa State University, she taught both human anatomy and comparative anatomy for four years while working on her doctorate in genetics.

In 2012, she began teaching large foundational courses for the genetics, development and cell biology department. Since then, she's taught about 1,000 students annually.

Each fall she teaches 250 students in two sections of Biology 255—Fundamentals of Human Anatomy. In the spring, she teaches 350 students in two sections of Biology 256—Fundamentals of Human Physiology. Both courses also are offered summers, with about 40 students enrolled in each. Haen Whitmer also is course director for the Biology 256 Laboratory, with about 380 students.

"It doesn't matter if I'm teaching four or 400, I can't envision doing anything else," she says. "On the first day of class, I tell them the study of basic anatomy and physiology is an ongoing and immensely important part of the human health sciences," she says. "In history, we find the discoveries of previously overlooked, seemingly trivial, details have resulted in some of the greatest changes in our scientific understanding."

Haen Whitmer strives to provide students with critical thinking skills, a thorough understanding of scientific methods and an authentic view of scientific change.

"It is our willingness to disregard old perspectives about who and what we are that drives our continued advancement in the field of human medicine," she says. Senior Lauren Kuper took both human anatomy and physiology courses from Haen Whitmer.

"She makes her lectures more than just a classroom setting," Kuper says. "She takes time to explain important topics in detail, while adding real life examples to connect what we are learning to situations we may face in future jobs or schooling."

Another student who took classes from Haen Whitmer is junior Nicolas Ronkar. "She always makes the main points clear and slips in a couple of jokes or side comments that are funny or interesting," Ronkar says. "She also is extremely attentive to her students."

Both courses also are offered online. Besides distance education students, the online option has become popular with on-campus students, with the two sections enrolling as many as 350 students each year.

In 2016, Haen Whitmer started replacing the older Biology 256 lab curriculum with research-based modules. This year, she received a grant that allowed her to create a cohesive lab text that includes chapters on scientific method, conducting literature searches, human subject experimentation, introductory statistics and scientific presentations.

Each week, students in the laboratory course are presented with a scientific problem and asked to speculate about an experiment they could perform. Then they conduct a version of the experiment and discuss whether the results were as expected.

For the past three summers, Haen Whitmer has taught several weeklong outreach courses for high achieving students in grades 9-11.

"I'm a huge fan of talented and gifted (TAG) programs," she says. "I entered TAG in the third grade and remained a TAG student through high school. Those experiences gave me the confidence I needed to pursue higher education."

Last summer she taught introductory biology for Upward Bound, a college preparatory program at Iowa State for first generation or income-eligible high school students.

She had nine students divided into two sections of the three-week course.

"I was a first-generation college graduate, so I could easily relate to this group," she says. "My goal was to provide the students with exemplary academic enrichment opportunities, along with some practical advice regarding the transition to higher education."

"It's really important to me to have these personal mentoring experiences," says Haen Whitmer. "Outreach opportunities provide me with greater insight into how young students think and learn, which positively impacts my university practices."

> "It is our willingness to disregard old perspectives about who and what we are that drives our continued advancement in the field of human medicine."

Above: **Karri Haen Whitmer** teaches large foundational courses for the genetics, development and cell biology department. She was honored by the college for teaching excellence. Her students say she takes the time to explain important topics in detail, uses real life examples and is extremely attentive.

ENERGIZING
EMERGING WILDLIFE BIOLOGISTS

Story by Susan Thompson
Images by Christopher Gannon

Michael Rentz's academic interest in how land use affects plant and mammal abundance developed when he was a child.

"Most of the area around my home in Minnesota was either farmland or woods and streams," he says. "I spent hours tromping around by myself. Those woods played a large role in teaching me to answer my own questions through observation and reading."

Now an assistant teaching professor for the Department of Natural Resource Ecology and Management (NREM), Rentz says the rest of his school years after he moved to Mankato following sixth grade, "were spent in an ecologically desolate neighborhood that housed nary a wild squirrel, much less a boundless forest all my own. My fear of losing my former chunk of nature to development is what drove me to issues of land use, conservation, preservation and sustainability."

In May 2014, Rentz earned a doctorate at the University of Minnesota in conservation biology and was hired by Iowa State NREM to teach. His course roster now boasts 10 different classes, some co-taught with colleagues. Three involve taking small groups of students to Wyoming and Montana. One is an annual spring break trip to Yellowstone National Park.

Rentz is involved in two courses at the Rod and Connie French Conservation Education Camp. The facility, located 50 miles west of Missoula, Montana, is operated by NREM for hands-on field education in forestry, fisheries and wildlife.

For the past three summers, a course on wildlife population methods has been held at the camp.

"It is a field-technique-heavy course that can substitute for an on-campus course in the fall," Rentz says. "It is three weeks of actually doing science and learning by doing."

In August 2019, Rentz was one of four professors involved in the first multidisciplinary experience for animal ecology majors interested in the department's wildlife option.

"We took 12 students to French Camp for two weeks of data collection and field experience followed by a half semester on-campus analyzing our data and samples," Rentz says. "We hope to expand this course in the future."

Students are quick to praise Rentz for his teaching style and dedication to students. Zoe Houseman, a sophomore in animal ecology, has taken several of his classes, including the two offered at the French Camp in Montana.

"Mike wants us to get as much hands-on experience as possible. We backpacked over 35 miles in Glacier National Park to do loon surveys, and we completed a 'mark and recapture' on deer mice to find the population size in a specific area," Houseman says. "Having the opportunity to take these classes with such a great professor allowed me to discover my personal interests and find my career path."

Rentz clearly enjoys what he does. "I love watching students grow," he says. "I love the energy and joy of students when they get to try something for the first time. Often, they have been dreaming about their careers for years, and the first time they get to do science on their own is magical."

Above: **Michael Rentz**, assistant teaching professor of natural resource ecology and management, teaches 10 different classes – many involve immersive research experiences for undergraduates allowing them to "learn by doing" like this mammalian field study.

> "They have been dreaming about their careers for years, and the first time they get to do science on their own is magical."

Story by Susan Thompson
Image by Christopher Gannon

HELPING STUDENTS PILOT CAREER PATHWAYS

"Teaching is an incredible experience," says Jennifer Bundy, assistant professor in animal science.

"It is so rewarding to observe students when they have those "ah-ha!" moments and get excited about a topic."

In 2019, Bundy received awards for Early Achievement in Academic Advising from both the College of Agriculture and Life Sciences and Iowa State University.

"I love being able to watch students grow from their freshmen year, when they are a little lost, to when they are making career plans in their junior and senior years," Bundy says.

Tyler Loew, a junior, has been one of Bundy's advisees since his freshman year.

"Dr. Bundy has gone out of her way to help me on multiple occasions. She goes above and beyond her job description to help students and advisees," he says.

Besides personally advising about 100 students annually, Bundy is the department's academic advising coordinator. She assigns incoming students to a faculty adviser and provides adviser training for new faculty.

Bundy teaches nearly 400 students each year, coordinates the department's learning community and oversees the transfer student program. She is one of the advisers for Veterinarians Without Borders, an undergraduate club helping improve animal lives abroad.

Originally from St. Louis, Bundy earned a bachelor's degree in animal science at the University of Missouri. She received her doctorate in 2008 and her master's degree in 2005 in breeding and genetics from the University of Nebraska-Lincoln.

After graduate school, Bundy worked for a swine breeding company in West Des Moines. During that time, she decided to teach night courses in statistics at Des Moines Area Community College.

"That made me realize how much I missed the classroom. I was thrilled to find an opportunity to join the Iowa State University animal science department," she says.

In 2014, Bundy was hired to teach a course in genetic improvement of domesticated animals.

"I was classically trained as an animal breeder so this is my favorite course to teach," she says. "I want students to understand the technical knowledge, but I also want to get them excited about opportunities within the field."

She also teaches three other courses—an animal science orientation class required for all incoming freshmen, a similar course covering the unique challenges facing transfer students and a lab that explores the care and use of animals in research settings.

In 2018, Bundy received the College of Agriculture and Life Sciences Learning Community Coordinator Award. The animal science learning community is required for all new students.

Bundy trains more than 40 peer mentors each year to work with small groups of incoming freshmen. Sarah Orban is a graduate student who assists Bundy with the learning community, after serving as a peer mentor.

"Dr. Bundy taught me many lessons about leadership, communication, on-campus resources and dealing with difficult situations that not only helped the incoming freshmen, but also me," Orban says.

Bundy says advising programs, transfer programs and learning communities all are part of a strategic plan to aid in student retention.

"Students who form a bond with faculty members or peers are more likely to stay at Iowa State," she says. "We want to provide every resource for students to make those connections."

Above: **Jennifer Bundy**, award-winning adviser and assistant professor in animal science, coordinates the department's advising program, learning community and transfer student program. She meets with advisees including **Tyler Loew** to help chart their academic plan, consider internships and connect to university and college support.

ADVANCING PLANT BREEDING THROUGH INNOVATION, COLLABORATION

Story by Ann Y. Robinson
Image by Christopher Gannon

Thomas Lübberstedt is pushing the boundaries of genetics and its use in developing tools and methods to make plant breeding more efficient.

His work is leading to improved virus resistance and more sustainable agricultural systems around the world.

The Frey Chair in Agronomy and Director of the Raymond F. Baker Center for Plant Breeding, Lübberstedt recently received the College of Agriculture and Life Sciences' Outstanding Achievement in Research Award.

INTERNATIONAL CREDENTIALS

Lübberstedt grew up on a horticultural farm in Germany and earned his degrees from the universities of Munich and Hohenheim. He spent several years working in Germany, and then Denmark, before coming to Iowa State in 2007 to take an endowed chair position.

Since arriving, he has helped isolate two important virus-resistance genes for corn — work that has involved collaborations in China and in Africa that can improve resistance to the emerging threat of Maize Lethal Necrosis Disease in East Africa, an effort supported by the U.S. Agency for International Development.

Lübberstedt is quietly passionate about his work combining plant breeding and molecular genetics.

"This is one of the most exciting scientific areas to be in, because of the tremendous progress in plant genomic research over the past decades and its impact on plant breeding," he says. "This will remain a key area to address major societal challenges in the decades ahead."

Image Contributed

ADVANCING DOUBLED HAPLOID RESEARCH

Much of Lübberstedt's research has been to improve technology for doubled haploids (DH), and he is known for establishing the first public doubled haploid facility in the United States. This work builds on research by another well-known Iowa State plant breeder, Sherret Chase (see sidebar). Chase, an agronomy professor in the 1940s and 1950s, was the first to exploit a natural genetic anomaly in corn he termed "doubled haploidism."

DH technology allows creation of inbred lines that carry only a single, maternal genome. Through several steps, doubled haploids can be used to accelerate development of pure genetic lines for research and plant breeding. However, as Chase discovered, the trait only happens in a small fraction of plants. Ever since, other scientists, including Thomas Lübberstedt, have been seeking to improve the efficiency of producing doubled haploids.

Lübberstedt has recently identified germplasm with a higher rate of spontaneous haploid genome doubling. Backcrossing this germplasm into breeding lines can significantly increase doubled haploids via a process that avoids using a common tool, the toxic chemical colchicine.

"This was a lucky find," says Lübberstedt. "There are still many steps to bring this into wider use, but it has a lot of potential benefits."

One of the benefits of creating doubled haploids without the use of colchicine is to improve breeding systems for organically grown corn, a goal of a multi-partner U.S. Department of Agriculture Organic Research and Extension Initiative grant Lübberstedt is leading. Another goal of that research is to create a mechanism for organically grown corn to resist pollination by transgenic pollen floating in from conventional fields, a problem that may result in huge losses for organic farmers.

Lübberstedt also is one of the primary researchers on a $7.3 million USDA Specialty Crop Research Initiative grant with the University of Florida, where his role is to implement doubled haploid technology for sweet corn.

COLLABORATOR AND TEACHER

USDA Research Geneticist Paul Scott ('86 biochemistry and biophysics) is a partner on the USDA organics grant. Scott says about his colleague: "Thomas is a creative thinker and a very organized manager. He's also quite selfless."

Scott's comment reflects regard for Lübberstedt's contributions expressed by colleagues who nominated him for the recent CALS research award. They outlined many achievements beyond a long list of publications and grants, including his dedication to teaching and mentorship of graduate students, postdocs and visiting scientists. They also emphasized his leadership to launch and direct a distance master's program in plant breeding that has 50 graduates worldwide.

Candice Gardner ('75 bacteriology), research leader for the USDA North Central Plant Introduction Center in Ames, has worked with Lübberstedt on several projects, recently on the Germplasm Enhancement of Maize program. She first met Lübberstedt when he came to campus to interview.

"Thomas is an excellent collaborator," she says. "He deserves a lot of credit for creating the doubled haploid center, which provides widespread access to genetic resources that otherwise would only be available to a few well-resourced seed companies. It's a good example of his tendency to raise everyone up."

Left: Plant breeder **Thomas Lübberstedt's** work includes establishing the first public doubled haploid (DH) facility in the United States at Iowa State University. Here, he holds a corn ear that shows its distinctive DH "color marker."

Above: **Thomas Lübberstedt** (background) in the field with recent graduate students. From left, **Anderson Verzegnazzi**, now a plant breeder at KWS in Brazil; **Kun Hu**, now a post doc at Sichuan Agricultural University, China; **Camilla Castro**, now a plant breeder with Corteva in Brazil; and **Raquel Pires**, now a professor at the Federal University of Lavras, Brazil.

SHERRET CHASE: A PIONEER IN CORN BREEDING

Technologies that underpin modern corn breeding began decades ago at Iowa State University. One such technology – doubled haploid plants – are thanks to Sherret Chase, a member of the botany faculty from 1947-1954.

Chase earned degrees from Yale and Cornell University, where he conducted research alongside future Nobel prize-winning botanist and geneticist Barbara McClintock.

He is best known for identifying "haploids" of maize — plants with a single set of chromosomes. This led Chase to pioneer early techniques to obtain "doubled haploid" lines to accelerate the rate of selection for desirable genetic characteristics.

He left Iowa State to work as a geneticist for DeKalb Ag Research (later part of Monsanto), where he developed the first successful commercial corn hybrid using doubled haploids. Over time, he was recruited for a number of prestigious academic and industry positions.

Chase, who turned 101 this year, will be presented with the Iowa State University College of Agriculture and Life Sciences Award for Sustained Excellence at the Baker Plant Breeding Symposium in Ames, Iowa, on March 6, 2020.

Story by Melea Reicks Licht
Image Contributed

CONFRONTING CANCER

WITH GRIT, COMPASSION, POSITIVITY

Erica Baier knew her story would have a happy ending.

"Either I would win my battle with cancer and I would look back at this time of my life with triumph, or I would meet my heavenly father," she says. "Either way the ending would be sweet."

Baier has made tenacious positivity her hallmark.

The senior in agricultural education inspired thousands while serving as a national FFA officer and battling cancer.

When Baier was elected to national office in the fall of 2017, she knew she was signing up for a rigorous schedule. National FFA officers take leave from their educational and professional pursuits to focus on their 12-month commitment.

"It is a huge honor traveling over 100,000 miles coast-to-coast impacting nearly 700,000 FFA members and stakeholders through keynote addresses, workshops, camps, sponsor visits and more," says Baier.

That's why she initially thought the frequent colds and sinus infections she suffered were due to jetlag or contact with hundreds of youth. But, when antibiotics failed to help and her swollen lymph nodes hardened, doctors looked deeper and took biopsies.

THE DIAGNOSIS

The results came the day after her 21st birthday – May 17, 2018. She took the call as she stood outside a restaurant between donor visits.

"I heard my doctor say the words, 'Hodgkin's Lymphoma' and it was like my brain was in slow motion," Baier remembers. "Then she said, 'a form of cancer' and it clicked. I thought, 'this can't be real. I'm supposed to travel the country and speak on behalf of FFA. What happens if I lose my hair and people think I'm weak? What happens if I don't have that much time to live?'"

The second half of her national officer term included an intense chemotherapy regimen. She returned to Des Moines every two weeks for treatment.

"I relied on my faith and my parents to give me strength. We knew there had to be a reason I was going through this during what was supposed to be the best year of my life," she says.

Commitment and persistence were not new to Baier. Growing up in Adel, Iowa, which lacked a high school agriculture program, she traveled every day to nearby Earlham to pursue her passion for FFA. She showed livestock and was active in her family's farming operation – she and her father built a 50-head SimAngus herd while she was in high school. But, this schedule was a test even for her.

GENUINE LEADERSHIP

In Arizona Baier met an FFA student named Jackson. Something about him was different.

"I finally shared about my cancer in my keynote at the conclusion of my visit. Jackson then shared with me about losing his sister to cancer and his own diagnosis with a rare blood disease," Baier says. "I had this image of leadership as perfection on a stage, but I learned that being genuine and sharing my story with others took more leadership."

There were many lessons for Baier that year, including we are more successful if we fight our fears together.

"Fighting cancer made me realize I had no idea about the burdens others carry. We have to show up as leaders to encourage everyone to find their place. Sharing positivity and helping youth realize their own value became my purpose."

Cindy Hefner, program coordinator with National FFA, coaches the national officer team.

"Erica encountered other FFA members who had Hodgkin's Lymphoma, and they were inspired by her strength and courage," Hefner says. "She decided to use her situation for the good – to be intentional in seeking out the "why" and help others cope. She's always putting others first and spreads joy wherever she goes."

CONTINUE READING ▸

CONNECT. ENGAGE. SHARE.

Erica Baier is one of many students to receive financial support from donors via emergency or completion grants. In many cases these funds are the determining factor if a student can continue their education. If you have interest in supporting students in crisis contact Andy Zehr, CALS director of marketing and new student programs, at azehr@iastate.edu or (515) 294-9123.

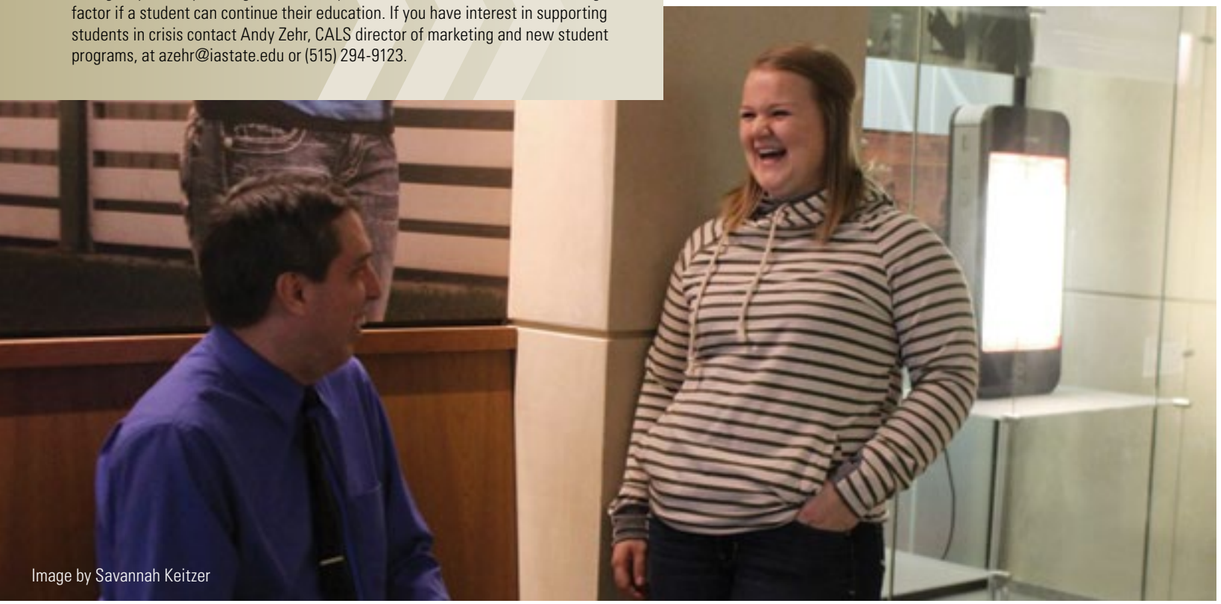


Image by Savannah Keitzer

On October 27, 2018, she completed her term in national office. On November 14, 2018, she was declared in remission from cancer.

True to form, rather than taking a few months off before heading back to the Iowa State campus, Baier squeezed in an internship in external affairs with Corteva for several weeks.

BACK TO CLASS

In January of 2019, Baier once again sat in an Iowa State University classroom.

"I was a year behind all my classmates and a lot of my friends had graduated. Medical bills from six months of chemotherapy, coupled with a weakened immune system and morale had me really worried."

Baier's academic adviser, Mike Retallick ('05 PhD ag education), professor and chair of agricultural education and studies, connected Baier with Howard Tyler, assistant dean of student services in the college.

"I was able to connect with Erica in the same way I connect with many students experiencing challenges – through a caring adviser. Prior to her return to Iowa State, Mike met with her to create a plan to get her to graduation. He learned of her financial challenges and knew we had resources to help," Tyler says.

The support she received was just what Baier needed to face the next semester.

Thanks to the generosity of donors, the college could help with Baier's situation. She was one of several students to receive financial support from the Harold Crawford Student Emergency Support Fund and the Iowa Farm Bureau/Duane Hinkle Trust Student Support Fund.

"The financial support allowed her to reduce the number of hours she was working outside of class to support herself," Tyler says.

Those funds made a huge difference.

"I'm unbelievably grateful for the support that helped our family get back on our feet, the ability to talk to staff that cared and to get tutoring," Baier says.

She enrolled in the college's SMART STEPS program with retention coordinator Audrey Kennis. The program provides free tutoring support, academic coaching workshops and one-on-one meetings to ensure student needs are being met. (Read more from Kennis on page 20.)

Supporting her future was a good investment, says Tyler.

"Erica showed everyone she had the extraordinary grit, courage and determination to succeed," he says. "Plus, she has this relentlessly positive attitude. It will be an emotional and exciting moment when she crosses the stage to receive her degree."

Baier's ready for her next big battle – figuring out her post-graduation plans after student teaching this spring. In the running are graduate school, leadership development work, teaching high school agriculture and Christian outreach.

The future is hers to create.

STORIES EXTRA: www.stories.cals.iastate.edu
Hear how Erica Baier related her story of perseverance with humor and grace to tens of thousands of FFA members in her National FFA Officer retiring address – visit STORIES website for a link to a video of her moving speech.

ADVENTURING ABROAD

Story by Megan Nemec, junior in agronomy
Image by Christopher Gannon

In high school, Kaleb Baber wouldn't have pictured himself studying abroad. But, after discovering his love of travel as an undergrad at Iowa State, he's serving as an officer for an international student organization.

Baber, a senior in agronomy from Weston, Missouri, maximizes his experiences at Iowa State through extracurriculars on campus as well as serving as the vice president of the International Agriculture Club at Iowa State.

"Once I came to Iowa State I realized how affordable studying abroad is and how we have such great opportunities to travel. Various scholarships were also offered, so it was kind of a no-brainer for me to go," says Baber.

He is the recipient of the Elinor L. Fehr and Walter R. Fehr Endowed Scholarship, the Agronomy Academic Fellowship and the Dean's Study Abroad Leadership Scholars Scholarship.

Baber studied abroad in Australia, where he gained hands-on experience in animal science. He learned about the history of Australia and gained a broad knowledge of the agricultural commodities produced in different regions of the country. He visited cultural sites like Uluru-Kata Tjuta National Park, the Port Arthur Historic Site and the Sydney Opera House. Baber also had the opportunity to travel to New Zealand.

"Coming from the Midwest, my experiences with agriculture before college were with corn and soybeans. It was really exciting to experience agriculture first-hand somewhere different," says Baber. "I took a pasture and animal science class abroad where I worked sheep one day with a farmer. That was really interesting to me because I had never even touched a sheep before."

Marshall McDaniel, Baber's academic adviser and assistant professor of agronomy, emphasizes the importance of traveling abroad to all of his students. He teaches an annual study abroad course during spring break rotating among Australia, Argentina and Spain.

"I think studying abroad is critical. It gives students a different perspective on agriculture and also allows them to see a different culture," says McDaniel. "I recommend my advisees take advantage of studying abroad while they are here because in the future they might not have the same opportunities."

In addition to traveling and serving the International Agriculture Club at Iowa State, Baber is the fundraising chair for the Agronomy Club.

He also has worked as a research assistant collecting and processing soil and water samples for the Agricultural Water Management Research Group. And, he was a peer mentor for the Department of Agronomy guiding incoming freshmen to successful first-year experiences.

Studying abroad helped Baber develop soft skills like independence and confidence.

"It used to be that I couldn't imagine even traveling abroad, but now I'd live abroad if the right opportunity arises," he says.

Below: **Kaleb Baber** shares his Cyclone pride as he poses at Mt. Freycinet in Freycinet National Park in Tasmania while studying abroad.

Image Contributed

CONNECT. ENGAGE. SHARE.

For students like Kaleb Baber, scholarship support opens up a world of possibilities through study abroad. If you're interested in learning how you can help CALS students participate in life-changing study abroad experiences contact Shelley Taylor, director of CALS study abroad at sztaylor@iastate.edu or (515) 294-5393.

TURNING PROBLEMS INTO POSSIBILITIES

Story by Paula Van Brocklin
Images Contributed

For Nick Battles a world of possibilities was revealed less than 60 miles from his suburban Indianola, Iowa, home when he participated in the World Food Prize's Iowa Youth Institute.

Battles, a senior in global resource systems and agriculture and society, was a sophomore in high school at the time. Held at Iowa State University, the event was Battles' first exposure to agriculture careers, and he immediately knew Iowa State and the College of Agriculture and Life Sciences' global resources systems (GRS) major were the right fit for him.

"The degree program's unique requirements of an international internship, studying a foreign language, choosing a technical area and the interdisciplinary approach were intriguing to me from the get-go," Battles says.

ONE OPPORTUNITY LEADS TO ANOTHER

Battles' experiences at the World Food Prize inspired him to apply for and receive a Borlaug-Ruan International Internship, a program that enables outstanding high school students to embark on careers in service, agriculture and global development.

In 2017, after graduating from high school, Battles spent two months in Gurugram, India, working for the S.M. Sehgal Foundation in agricultural development. He interviewed nearly 40 farmers, with the help of an interpreter, to find out how they were using micro-irrigation systems. The experience was a far cry from his familiar Iowa surroundings.

"I saw struggle and hardship and injustice like I had never witnessed before," Battles says.

Battles returned more determined than ever to tackle the worldwide problems of food insecurity, water scarcity and malnutrition. To better prepare him for these challenges, he added a second major — agriculture and society — an interdisciplinary program that resides in the Department of Sociology.

"Agriculture and society allows me to study economics, political science and sociology in a way that relates to agriculture," Battles says.

LEARNING TO LEAD

Battles also is pursuing a minor in learning and leadership sciences. Jan Wiersema, associate teaching professor in agronomy, has taught Battles in two of the minor's foundational classes.

"Nick seems to see the world in possibilities, not problems," Wiersema says. "He has a desire to use his knowledge and skills to solve problems and enhance learning and life for others."

Leading is second nature to Battles.

"I have a particular interest in leadership, so I'm grateful for all the chances CALS provides to seek out and practice those skills," he says.

From his participation in the Vermeer International Leadership Program, to the Globe Leadership Fellows Program, to the Dean's Leadership Class, to the multitude of leadership positions he's held in various service organizations, Battles is grateful to CALS and Iowa State for propelling his academic and career goals forward.

"My courses, the meaningful structure of my degrees and active learning communities go far beyond the basics, and with good reason — the world will not settle for mediocrity," Battles says.

And neither does he. Battles has excelled academically since stepping onto Iowa State's campus. As a freshman, he earned the Floyd Andre Scholarship for Excellence in Agriculture, and he was recently recognized with a high scholarship award for being in the top 2% of his 2021 CALS class. He's a regular on the Dean's List as well as a member of the university and CALS honors programs.

EMPOWERING OTHERS THROUGH SERVICE

Battles is dedicated to serving others. His long list of service activities includes being a Cyclone Aide and Adviser, a CALS Ambassador and a member of the college's technology advancement committee. He also serves in UNICEF, the National Alliance on Mental Illness and Food at First.

"I've always understood that I come from quite a privileged background. With privilege, in my opinion, comes a responsibility to empower others," he says.

Nicole Nicholson supervised Battles as a Cyclone Aide and adviser.

"Nick is always asking how he can help, and he is always there for people whenever they need him," Nicholson says. "As a Cyclone Aide adviser this past year, I saw the care and compassion he showed for every student he mentored and, whether he knows it or not, that was inspiring to me."

CHANGING THE WORLD FOR THE BETTER

Battles studied abroad in Wageningen, Netherlands, this fall thanks to the Louis M. Thompson Study Abroad Scholarship, which helped fund his trip. He is learning about irrigation and water management, economics, international policies and sustainability.

"Having the chance to interact with and hear the perspectives of peers from around the world on interests I care deeply about is extraordinary," he says.

Battles will apply his overseas experience to his career following graduation from Iowa State in 2021, though those plans are not yet firm. What is certain? Battles will work to make a difference wherever his path leads.

"My degree programs make me so excited for a career in public service," Battles says. "I think everyone, to some degree, grows up wanting to change the world for the better."

Left: **Nick Battles** spent two months working in India interviewing farmers about their use of micro-irrigation systems. The experience was a springboard for study abroad and leadership experiences at Iowa State.

Above: Battles serves as a Cyclone Aide and adviser mentoring and welcoming fellow students.

CONNECT. ENGAGE. SHARE.

Ambassador Kenneth Quinn-World Food Prize-Iowa State University Scholarship

This fall President Wendy Wintersteen ('88 PhD entomology) announced the addition of special scholarships earmarked for CALS prospective students participating in World Food Prize programs like youth institutes or the Borlaug-Ruan Internship. The more programs they participate in, the higher potential scholarship support they could earn. If you engage with prospective students, anywhere in the U.S., please consider sharing this opportunity with them. We'd love to have them join the Cyclone family. Contact Andy Zehr, CALS director of marketing and new student programs, at azehr@iastate.edu or (515) 294-9123 for more information.

STUDENT-CENTERED
CALS ADVANTAGE

Story by Audrey Kennis
Image by Christopher Gannon

Colleges and universities across the country are shifting to a student-centered approach to help eliminate barriers that impact students inside and outside the classroom.

Since joining the College of Agriculture and Life Sciences one year ago, I have been awestruck by the college's level of commitment to student development, success and holistic support. We realize academic performance is not only what happens in the classroom, but also is deeply connected to external factors like family life, health and resource availability.

Last spring, we launched a pilot initiative called, SMART STEPS. SMART is short for Student Management and Academic Response Team. It's a comprehensive support program designed to provide high-risk students an individualized plan to increase academic performance. Students are required to adhere to specific guidelines including weekly meetings, goal-setting, academic coaching, tutoring, student counseling and financial support.

We take a holistic approach by addressing students' cognitive and non-cognitive skills and barriers that impede their success. After one semester, students in SMART STEPS exhibited significant improvement compared to peers who did not enroll in the program. They averaged 0.8 GPA increase above qualifying peers who did not enroll, and 75% successfully completed the program in good academic standing. As a result, we fully adopted the program this fall and have seen a substantial increase in retention.

"We're able to provide individualized support and hold students accountable by encouraging them to take ownership of their learning and manage life circumstances."

One student shared: "Having a support system to fall back on when I felt as if I couldn't do it anymore helped me so much. This program helped me get back on track and get to the root of my problems, which then helped me succeed in the long run."

Providing one-on-one, wraparound care allows us to deliver real-time intervention and address student needs before they escalate into larger issues. Often times, we see students struggling with non-cognitive issues such as mental health, managing work and school, navigating campus and utilizing resources. These factors tend to be a stronger predictor of academic performance than cognitive factors alone. By implementing this program, we're able to provide individualized support and hold students accountable by encouraging them to take ownership of their learning and manage life circumstances.

One student stated: "My retention coach was the most helpful part for me in this process. I needed another person to keep me on track and motivate me. I really struggled a lot, but she gave me all the tools I needed to succeed. Hopefully I can stay in this program."

CALS Student Services is more than transactional – it's a relational space that allows us to be proactive with interventions. SMART STEPS, along with several other programs, has allowed us to have a lasting impact on student success and retention. As stated by one participant, "I would not likely be graduating this semester without this program."

– Audrey Kennis is the retention coordinator for the College of Agriculture and Life Sciences

CONNECT. ENGAGE. SHARE.

Donors are helping CALS advisers recognize when and how students need assistance. If you're interested in supporting the college by proving financial support for adviser training and development; student-support programs like SMART STEPS; or direct support to students via emergency or completion grants contact Andy Zehr, CALS director of marketing and new student programs, at azehr@iastate.edu or (515) 294-9123.

PROMOTING AG TO
COMBAT HUNGER

Story by Barb McBreen
Images Contributed

Maddy McGarry approaches life like she's training for a marathon. She's focused. She puts in the work. And, while she trains for one race, or pursues one opportunity, she's looking ahead for the next.

One of those opportunities was interning with the Congressional Hunger Center last summer in Washington, D.C. McGarry, a senior with a double major in agricultural education and studies, communications option, and international agriculture, wrote stories to increase awareness about global food insecurity. It was just one of many opportunities she's pursued to address hunger issues.

"I'm always seeking out opportunities and running with them," McGarry says. "I'm a first generation student and I enjoy challenging myself."

McGarry wanted to go into journalism, but thought it was too limiting. Then she discovered the communications option in agricultural education and studies that brought together her interests in journalism and agriculture.

"It's a hidden gem," McGarry says. "Now I'm equipped to make a difference and tell stories about the people who make a difference."

The major also offered the opportunity to serve as president of the Agricultural Communicators of Tomorrow Club and as co-editor of *CALS Connections*, a magazine for CALS students.

Even with her full schedule McGarry finds time to run every day. She had to take a break after she suffered a hairline fracture in Rome last summer. She was there with the Dean's Global Agriculture and Food Leadership Program – a partnership with the Food and Agriculture Organization (FAO) of the United Nations. Each year students in the 10-year-old program spend one month in Rome working on food security problems for the FAO.

"It was an intensive program, and I think it was one of the best decisions I've made in my college career," McGarry says. "We had nine students and my team of five students looked at the sustainability implications of shifting to a plant-based diet."

McGarry graduated from high school in 3.5 years and will graduate college in 3.5 years. Mike Gaul, director of the College of Agriculture and Life Sciences career services office, says McGarry has always been polished and focused.

CONNECT. ENGAGE. SHARE.

Maddy McGarry earned several scholarships during her college career. The Jay and Julie Cornelius Jacobi Scholarship for Agricultural Study Abroad helped her travel to Panama, and the Dean's Global Ag and Food Leadership Program Scholarship for Rome supported her participation. She's been awarded several national and external scholarships and within CALS was selected as a Duane Hinkle Agriculture Scholarship recipient. The Hinkle scholarship was created to support Iowa students pursuing agricultural careers and provides over 35 scholarships per year to CALS students. Visit www.stories.cals.iastate.edu to learn more about the Hinkle scholarship, which is administered through a relationship with the Iowa Farm Bureau.

"She gets it," Gaul says. "She knows why she's here, she knows where she's going and she's going to get there."

During her short college career she's participated in several internships. She's worked as a public policy intern for World Food Program USA, a communications intern at the National Pork Producers Council, public relations intern at AMVC Management Services and as a customer insights intern for Vermeer.

She's also studied abroad in Rome and Panama, but after two internships in Washington D.C. she's hoping to land a job in communications in the nation's capital. She'd like to work for a commodity group, member of Congress or an organization that's focused on agriculture.

"Washington D.C. is an exciting, historic place and it's a great place to meet new people," McGarry says. "And I never get tired of running on the National Mall."

Above: Senior **Maddy McGarry** has honed her voice for agriculture through study abroad and internship experiences in Rome, Panama, Washington, D.C., Iowa and more.

TEACHING TO TROUBLESHOOT WITH TECH

Story by Kate Tindall
Images by Christopher Gannon

When other kids were asking for toys or video games, Thomas Demers was asking for full-size tractors and combines. He was a gearhead from day one.

"My parents bought me the DVD series 'All About John Deere,'" Demers says. "I remember a video of an orchard tractor Deere had set up autonomously. The farmer operated the tractor from his house by remote control. I thought, 'Man, that is cool.' That was the first real-life application I had seen of precision agriculture."

Demers is a junior studying agricultural systems technology. This fall, he traveled home weekly to Storm Lake, Iowa, to drive the combine during harvest. Someday soon, Demers sees the farming process – from planting to harvest – moving toward an integration of robotics and human supervision.

John Haughery, an assistant professor of agricultural and biosystems engineering, agrees.

"We're using more automatic or robotic systems," Haughery says. "That's the nature of how technology is trending."

REAL-WORLD ROBOTICS

Haughery ('17 PhD industrial and agricultural technology) teaches both introductory and advanced courses in technology systems management.

In his introductory course, Solving Technology Problems (TSM 115), students like Demers don't just draft code for robots. They actually program a robot with their code and set it to follow a driving course.

The robots are square and about the length of a student's hand. They run on two continuous bands of tread driven by wheels with a circuit board visible from above. Their route is a black line printed on a table-sized foam board. Each robot mimics actions found in the field — following a row of crops, turning at the end rows, or slowing to unload grain.

Brayden Geilenfeldt, a sophomore in industrial technology, had never coded before signing up for Haughery's course. True to the course name, Geilenfeldt found himself troubleshooting with his group to solve problems.

"The part that stuck with me the most was the class when our robot just wouldn't work," he says. "Something was wrong in the code. That drove me to want to figure out the problem, since I could see it not working in front of me."

ADVANCED TEACHING TECHNOLOGY

Geilenfeldt's motivation to problem-solve isn't a happy coincidence. Haughery is actively designing and leading his course with a focus on the scholarship of teaching and learning. He bases class activities on what previous studies tell him works or doesn't work.

"It's a down-and-dirty, rubber-meets-the-road way to get to the best possible teaching methods," Haughery says. "You make a change, you collect the data, you analyze that data and you find the benefits or detriments of the process so that you can change it the next time."

In his robotics courses, Haughery pulls out all the stops to find what is working for his students. He tracks grades, analyzes course evaluations and holds appraisals throughout the semester to discover whether the students are picking up more through hands-on work with the robots.

"What we've found is robots give our students a tangible feedback loop," Haughery says. "They develop a program, they upload it to the robot and then they watch the robot run. Let's be honest — it usually doesn't work the first time. But they can see where it stops working."

During the preliminary stage of his research, Haughery found final grades increased by 3% on average when students worked with robotics in a hands-on environment. He also saw higher scores from students who worked with a robot, in comparison with those who only completed the coding assignments.

Though more quantitative data is needed to prove a statistical significance of hands-on robotics activities heightening motivation in the classroom, students are already applying practical lessons — an attention to methodical problem solving and an understanding of the system as a whole.

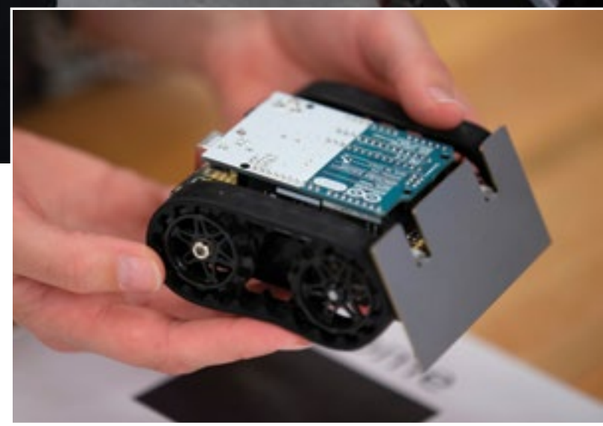
> "Robots give our students a tangible feedback loop. They develop a program, they upload it to the robot and then they watch the robot run."

CRITICAL THINKING, FUTURE FOCUSED

"Technology is changing so quickly in my field," Geilenfeldt says. "The more I know now, the better I'll be able to adapt during my career. I'll be able to understand the system, but also the jobs of the people I'll be working with or managing. I won't worry that I can't do something because I may break it. I can take it apart, and I can put it back together."

Haughery says that holistic approach is what makes his students so prepared for the workforce.

"We work hard to impart to our students a systems-thinking approach," Haughery says. "We consider everything from designing the equipment, to manufacturing, to effective and sustainable management, to the ecosystem we're using the equipment in and the people using it. We want to connect them to the bigger picture. We have a better chance of finding positive solutions if we look at the holistic system. Sometimes the bigger the problem, the farther we need to zoom out to find the answer."



Above: CALS grad **John Haughery**, right, assistant professor of agricultural and biosystems engineering, says technology is trending toward robotic systems. In his introductory technology systems management course, he focuses on developing problem solving and critical thinking skills.

STORIES EXTRA: www.stories.cals.iastate.edu
Hear more from CALS grad John Haughery in the podcast *Factor Analysis* as he describes how he leads students through the process of solving technical problems through robotics projects. Visit STORIES website for a link.

SWEET REWARDS

Story by Whitney Baxter
Image Contributed

When it comes to landing an internship or job, having the right skills and experience pays off.

Such was the case for Allison Little, a senior in food science, who is interning at The Hershey Company in Hershey, Pennsylvania. Little oversees test trials, writes reports, presents findings and tests new ingredients.

"When I stumbled across the Hershey opportunity, I decided to take a shot in the dark," Little says. "The 15-month co-op has given me the chance to get a better look at the food industry, get hands-on experience leading my own projects and have a better idea of what I want to do with my food science degree when I graduate."

A number of experiences and connections Little had early in her college career contributed to her successful application. As a junior, Little enrolled in the professional development in food science course, taught by assistant teaching professor Kate Gilbert ('07 food science).

"The professional development class helped me find ways to better describe my strengths to future employers and get feedback on my resume," Little says.

Gilbert also serves as the internship coordinator for the Department of Food Science and Human Nutrition. In this role, she helps students like Little find applicable work experience for their major and career plan.

"Allison shared with me about the Hershey co-op position and wanted to know if she should apply. I said yes because the position was a good fit for her, plus I encourage students to apply for any position that interests them," Gilbert says.

Little also credits the experience she gained in associate professor Aubrey Mendonca's food microbiology lab for preparing her for the co-op. "It gave me the background of understanding how scientific projects are laid out and executed," she says.

Little started her co-op in the summer of 2019 and says many of her experiences contribute to her career goals. She's been able to work on the reformulation of existing products to use more cost-effective ingredients and maintain the quality of the product. She also has supported line trials at plants to see how the different lines work.

"This co-op has helped me gain more focus on the type of work environment I enjoy and what I value as an employee," Little says.

At the end of the day, making sure students are prepared to enter the workforce upon graduation is Gilbert's goal.

"The end goal of attending college is to enter a career you are passionate about," Gilbert says. "It takes a village of advisers, career services and faculty to make it happen, but it is worth it to get students headed out on the right career path."

BEYOND BOOKS

BUILDING YOUR BEST SELF

Story by Sherry Hoyer
Image by Christopher Gannon

Jake Hlas' journey to Iowa State started with his family's Simmental cattle operation near Traer, Iowa. As a junior majoring in animal science, he continues to work with his family's cow-calf operation and travels the country preparing cattle to show.

"That background led me to seek a degree in agriculture, specifically one that will assist me in continuing the cattle operation as well as any other business I might pursue," he says. "Although my mother graduated from Iowa State, I chose to come to college here because I fell in love with the professors and the passion for excellence CALS instills in its students."

Early in his Iowa State career, a senior told him to not let books get in the way of receiving an education, and he took that statement to heart.

"Initially I decided to focus on my fraternity, Alpha Gamma Rho. As civic engagement chair, I direct activities that expand community involvement and volunteerism by providing monthly workshops on agriculture to 100 kindergarten students in Des Moines," Hlas explains. "We may be their only tie to agriculture."

His campus involvement includes Collegiate Cattlemen, CALS Ambassadors, Block and Bridle and the livestock judging team. He also works at the Iowa Beef Center as a student research assistant for extension program specialist Beth Reynolds.

Hlas served as the Northeast State Vice President for the Iowa FFA Association last year, traveling 35,000 miles to present leadership curriculum to nearly 16,000 high school FFA members. He also met with government officials and developed a passion for being a voice for agriculture on a government level.

"In the future we as an industry will be faced with challenges, and I want to ensure the voice of the American farmer and rancher is heard and heard well," he says.

His summer 2019 internship at the U.S. Department of Agriculture Office of Secretary Sonny Purdue in Washington, D.C. included working directly with the 2018 Farm Bill. He also oversaw programs directly impacting Iowa State and other land grant universities.

These leadership, internship and work experiences led to him being recognized by the College of Agriculture and Life Sciences as a Fred Foreman Scholarship recipient.

"Only a small percentage of CALS students receive this award and I am extremely grateful for this and all the scholarship dollars. They allow me to maintain a high level of involvement, focus on my schoolwork and investigate various work opportunities as an undergraduate," Hlas says.

Hlas has advice for students who, like his younger self, might think they know what they want to do:

"In the end, your college experience is entirely what you make of it. Be intentional with your time and use the standard of excellence set by those who came before to build the best version of yourself far beyond the end of your four years."

CONNECT. ENGAGE. SHARE.

Dana ('67 dairy science) and Martha ('15 honorary alum) Robes believed that promoting participation in student organizations would lead to increasing enrollment, retaining students and developing leadership skills. They created the Fred Foreman Scholarship for Growth in Leadership Participation to reward students like Jake Hlas who are active in clubs and serve the college as a CALS Ambassador. Dana named the scholarship in honor of Fred Foreman, a faculty member in dairy science who urged Dana to get involved. Learn more about this scholarship by visiting www.stories.cals.iastate.edu.

TRACKING IOWA'S WILD SPECIES

Story by Ann Y. Robinson
Image by Christopher Gannon

Trevor Hachmeister carefully holds a white-footed mouse live-trapped in the woods at Big Creek State Park. He weighs and measures the mouse before marking its belly with permanent ink – in case it's recaptured – and releases it.

Monitoring partner Simone Lord notes the mouse's measurements on a paper spreadsheet and refreshes the trap with a peanut butter bait wrapped in wax paper. Then they head toward the next orange plastic flag signaling the next trap.

Today, the field technicians are looking for small mammals in central Iowa. Next week, they might be identifying dragonflies in a wetland-prairie complex or crayfish along a stream. Sometimes, they search for tracks and signs (like scat) to identify species. Other times, they review data from trail cameras set up to "catch" animals, like weasels, which are tough to document. They regularly spend evenings recording bat echo locations.

They are collecting data for Iowa's Multiple Species Inventory and Monitoring Program, known as the MSIM. Since 2006, the program has been scouting mostly public land to track the status of more than 1,000 species in the Iowa Wildlife Action Plan. The plan includes birds and insects, reptiles, amphibians, fish and even snails. The Iowa Department of Natural Resources (DNR) coordinates the program in partnership with Iowa State University.

Hachmeister ('19 animal ecology) from Coon Rapids, Iowa, started monitoring for the program in May. "I like the variety," he says. "Every day we're doing something different. In high school, I decided I wanted a job that would get me outside. It's not glamorous, but I enjoy the work, and I think it will look good on my resume."

Lord, a senior in animal ecology, comes from northern Illinois. She's earning internship hours — her undergraduate degree program requires 400 hours of relevant work experience. She says this experience will help her decide what she wants to do after college.

"It's amazing how much we overlook. There's a lot of life in Iowa we tend to look past, especially small things," says Lord. "For example, there are a lot of different species of dragonflies in Iowa."

Over time, MSIM teams have found six species of odonates (dragonflies and damselflies) never before recorded in Iowa.

Tianna Kinzie ('19 animal ecology), from Anita, Iowa, started working for the monitoring program following graduation. She says she hopes to work in the field of conservation biology.

"I really appreciate that the broader goal of this effort is to provide information to help 'keep common species common'," she says.

Stephen Dinsmore ('90 fisheries and wildlife biology), professor and interim chair for the departments of entomology and natural resource ecology and management, administers the program for Iowa State. His role is, in part, to ensure that protocols for site selection, monitoring and database management are scientifically sound.

"Our partners at DNR use the information our students collect to inform management decisions about what actions to take – such as whether to burn in November or April, or plant grass or forbs – to keep the habitats Iowa's wildlife need as healthy as possible," says Dinsmore. "So we need to make sure that we're providing good data."

Few states have had such a comprehensive, long-term effort to monitor animals and plants. Every year, Dinsmore helps review a large pool of candidates from the Midwest and beyond who are vying for the chance to work long hours outdoors for the program. Those who get the opportunity often go on to become professors, researchers or wildlife professionals for agencies and nonprofits.

One of his graduate students, Rachel Vanausdall ('18 MS wildlife ecology), has become the MSIM's main program biologist. She does the majority of data analysis, conducts training and field visits, helps write papers and supervises field technicians. Today, she leads the team that includes Hachmeister, Lord and other recent Iowa State graduates.

Johanna Ford ('18 MS wildlife ecology), from the Chicago area, was hired for her expertise identifying birds and butterflies. She's not sure what she wants to do next.

"For now," she says, "I'm glad to be part of important conservation work that can help us understand what we need to do to protect Iowa's wild species for the future."

The work continues, with support from the U.S. Fish and Wildlife Service, the Iowa Department of Natural Resources, Iowa State University and the U.S. Army Corps of Engineers.

Left: **Simone Lord**, a senior in animal ecology, left, examines a field mouse, while her monitoring partner **Tianna Kinzie** ('19 animal ecology), records measurements as part of the Multiple Species Inventory and Monitoring Program at Big Creek State Park. The Iowa Department of Natural Resources coordinates the program in partnership with Iowa State University.

A WILD DINSMORE LEGACY

A passion to nurture the next generation's interest in the health of Iowa's wild species is a family legacy for Stephen Dinsmore ('90 fisheries and wildlife biology).

His father is Jim Dinsmore, a popular emeritus wildlife ecology professor at Iowa State. Jim also is well-known as author of a notable book on Iowa's natural history, "A Country So Full of Game: The Story of Wildlife in Iowa."

As a kid, Stephen often spent after-school and holiday hours hanging out in his dad's office and tagged along on his field trips. Years later, he works in an office in the same building and revisits some of the same places with his students.

Their work emails help tell the tale. Jim has long been known as **oldcoot@iastate.edu**. Stephen can be reached at **cootjr@iastate.edu**.

STORIES EXTRA: www.stories.cals.iastate.edu
Visit STORIES website for links to learn more about the Multiple Species Inventory and Monitoring project and its connection to the Iowa Wildlife Action Plan.

GOOD EARTH

GROWING EXPERIENCE

Story by Tracy Slater
Images by Christopher Gannon

Sometimes the best education is one you can eat. Iowa State University students have an opportunity to do just that with the Good Earth Student Farm.

Organized as a Community Supported Agriculture, or CSA, the group puts shareholders – Iowa State faculty, staff and students – directly in touch with the student farmers who are growing their food. The farm provides hands-on opportunities for College of Agriculture and Life Sciences students as well as students from other colleges.

The farm is entirely student managed and averages around 50 shareholders per year. Shares are available to faculty, staff and students of Iowa State. Located at the Iowa State University Horticulture Research Station, Good Earth operates independently from the research station's produce operation.

"We started planning in February," says Ellena Wolff, a junior in horticulture and student farm manager for the 2019 season. "We took inventory of seeds, figured out what crops we wanted to grow and put together a cropping plan. Then I got to pick out the cultivars I wanted to grow."

Tracking every detail is up to Wolff and assistant farm manager, Abby Kennon, a senior in agronomy. They're mindful of income and expenses, make agronomic decisions and manage the shareholders who volunteer at the farm. Wolff is the only paid employee of the operation.

The farm offers two types of memberships. Paid shares contribute solely financially, while others work three hours a week at the farm and pay a smaller fee. Wolff and Kennon established weekly shifts for the volunteers with work shares. They determined what tasks were to be tackled during each shift, from starting seeds in the greenhouse to planting, watering, harvesting and weeding.

"Working as a team meant we were able to divide up the work based on each other's skill sets," says Wolff. "If I was confident in one area, I led and vice versa."

The full leadership team includes the student organization president, Huong Nguyen, a graduate student in agronomy, and graduate student adviser Moriah Bilenky, a graduate student in horticulture. Guidance for the group is rounded out by faculty advisers Mary Wiedenhoeft ('80 agronomy), Morrill Professor of agronomy, and Ajay Nair, associate professor of horticulture.

The farm started in 1997, but has under gone a few changes since its beginnings. Originally named Heenah Mahyah, after the Ioway tribe's word for "Mother Earth," the group was known as the Student Organic Farm for a time as well. Students don't earn credit or get paid for their work on the farm. Experience is their reward.

The farm was certified organic at one time and still follows many of those practices. However, the official certification process is time consuming and can be expensive. For now, the group has opted to forego the certification.

"Our shareholders said 'we trust you'," says Wiedenhoeft. "That means the world to us, but it also saves us expense and time of the certification process."

Everyone who works on the farm attends food safety training to ensure everything is handled appropriately. In addition, they must be trained on various equipment for harvesting and packaging.

Being in charge of the entire process from buying seed to the final harvest of the season has been a valuable learning experience for Wolff.

"I didn't grow up on a farm, so I really wanted to immerse myself and learn what it was like to run a farm," says Wolff.

Growing up in Dubuque, her interest in agriculture was sparked by a friend who transformed their city lawn in Dubuque into a garden. Wolff found herself helping sell leftover produce at the local farmer's market. Coming to Iowa State as an undeclared major, she kept coming back to that experience. She just couldn't shake it. She wanted to farm. Wolff became a horticulture major.

"The Good Earth Farm has been an incredible learning experience and not just from an agricultural perspective," says Wolff. "I've gained leadership skills, made connections and learned so much from others."

The goal of the Good Earth farm is education. In the past, students have hosted workshops about gardening and canning for the local community. Ultimately, shareholders know the students are in it to learn.

"Every season is so different," says Wiedenhoeft. "As a shareholder, I know not everything will be perfect."

As with any agricultural venture, the weather plays a necessary but unpredictable role. Some seasons teach harder lessons than others. Dry and wet years hit certain species hard. What causes one crop to thrive decimates another. All are considerations aspiring farmers must learn to manage.

"The farm not only teaches students how to sustainably grow produce, but also exposes them to challenges and issues of production systems. Learning how to grow quality produce with limited impact on the environment is something students learn day-in and day-out," says Nair. "Student involvement with the farm also teaches them the value of eating healthy, nutritious fruits and vegetables and impacts their health in a positive way. It is a joy to watch these students grow professionally and personally."

The challenges haven't deterred Wolff. In fact, they've made her hungry to learn more.

"I still want to farm," says Wolff. "But, because of this experience I am keenly aware of how much I don't know yet. I'd like to work under someone, learn from someone for a while before I take on that risk myself."

Above: **Shannon Rauter**, left, and **Ellena Wolff** work together to harvest kale at the Good Earth Student Farm at the Horticulture Research Station.

Above right: From left, farm workers **Martha Hodapp**, **Ellena Wolff** and **Shannon Rauter** pose at the Good Earth Student Farm. The farm is entirely student managed.

DISCOVERING THE SHARED LANGUAGE OF SERVICE

Story by Lynn Laws
Images Contributed

Alana Platte's interest in global issues was ignited as a junior in high school, in Fairbank, Iowa. She was invited to participate in the World Food Prize Iowa Youth Institute at Iowa State. As a participant, she was asked to write a research paper about a country and a topic of her choice. The topic she chose was malnutrition; the country: Haiti.

Platte, now a senior at Iowa State, majoring in both global resource systems (GRS) and nutritional science says, "My interest in health and nutrition is because I'm really baffled by the challenge of this growing population, expected to reach over 9 billion by the year 2050, and how we're going to feed people."

Since that first introduction to global issues, Platte has explored health and nutrition issues in Guatemala, Brazil and Jordan. Thanks to the generous support of donors, Platte has funded her education completely through scholarships. The Robert L. Skinner Endowed Scholarship, the Elinor L. Fehr and Walter R. Fehr Endowed Scholarship, the Todd and Lori Hall Scholarship and the Global Resource Systems Major Fund are among the scholarships that have helped Platte fuel her education at home and abroad.

GUATEMALA

In the summer of 2016, a Borlaug-Ruan International Internship with the World Food Prize took her to Guatemala for eight weeks to work for The Center for Studies of Sensory Impairment, Aging and Metabolism, a non-profit organization dedicated to nutrition research and education. Platte's research at primary schools was to measure the head, neck and waist of children under the age of 12. Afterwards, she compared those measurements to standards of health. During the second half of her internship, Platte conducted a likeability test, adding whey protein to a popular breakfast drink.

"The thought was, if mothers consumed this drink with added whey protein they would pass protein onto their infants through their breast milk," Platte says.

Platte found Guatemala interesting and the language somewhat challenging. She had studied Spanish in high school and a little in college. She did fine, but made a few inaccurate translations. For example, she took cold showers for two weeks before her host mother told her the "C" on the faucet did not represent the word "cold." Rather, it meant "caliente," which is Spanish for hot.

"I was in the third week of the first research study when the translator told me I had been saying a word wrong the whole time. I thought I was telling the children, 'I'm going to measure your waist.' But, I was really saying, 'I'm going to measure your seat belt,'" Platte says. "Every time I would say that, the little kids would start giggling."

BRAZIL

In the spring of 2018, the college's Global Food and Agriculture travel course took her to Brazil for two weeks to explore some of the complex issues surrounding food and agriculture systems there including soy, corn, sugar, coffee and bananas.

"This was unique to me," says Platte. "I grew up in a rural town, but I didn't know much about the production of different agricultural products."

She observed the cultural differences, too, "the food, the vibrant colors and the public expressions of love for family."

JORDAN

The following year, Platte applied for a 10-week internship with Cargill. She was accepted and sent to Amman, Jordan, in the summer of 2019, to conduct research with Cargill Animal Nutrition.

"The project was really interesting because in that region they offer products for poultry, dairy and ruminants. With population trends and the increase of aquaculture production, Cargill wanted to see if they should be producing feed for aquaculture," Platte says. "I wasn't just looking at Jordan, but in all countries throughout the Middle East. I presented my findings to Cargill and made recommendations of countries where I thought they should be doing sales for aquaculture feed."

In Jordan, Platte also had the opportunity to do a lot of "cool touristy" things. She floated in the salty Dead Sea, went scuba diving in the Red Sea and was awed by rock-cut architecture in Petra, a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site.

AT HOME IN THE U.S.

Inspired by the actions of her parents, Platte has had a long-time commitment to community service. One example is her service through Iowa State's Oxfam Club, which conducts activities to expose students to the inequalities of food security found throughout the world. Platte has served as president and vice president. During her time with the club, she has led club recruitment efforts and various awareness events, including hunger banquets, a food drive and the Oxfam Jam, where local artists perform.

Academic adviser Maggie Sprecher, who advises the Oxfam club, says, "Alana is super organized, highly motivated, highly intelligent and, I know it sounds cliché, but she's always been passionate about food security, hunger and equal rights."

In the spring of 2020, Platte will spend a semester in Uganda at Iowa State's Center for Sustainable Rural Livelihoods' nutrition education centers.

"I'm really excited. I'm not sure quite what to expect, but I've heard a lot of good things from students who have gone in the past. I think it's going to be a great way to end my career at Iowa State."

Platte has accepted a position with Cargill Animal Nutrition in Kansas City, Kansas, as a management associate. Soon after graduation, she will begin a 24- to 30-month training program to identify her best-suited permanent position with Cargill.

Platte's long-term goal is to improve the public health and nutrition, while working for an organization that provides services in the U.S. and other countries.

"I think it's really important to recognize that a lot of these world issues are also happening in our own communities," says Platte.

As a global resource systems major, **Alana Platte** has explored health and nutrition issues in Guatemala, Brazil and Jordan. She plans to use her global perspective to help meet the challenge of feeding a growing world population.

CONNECT. ENGAGE. SHARE.

Cargill Inc., a multinational corporation in food, agriculture, financial and industrial products and services, has taken an interest in developing future global leaders through the Global Resource Systems (GRS) program. To date, Cargill has donated more than $1.5 million to GRS, investing in the future leaders like Alana Platte. If you have interest in supporting students in one of the fastest growing majors in the college contact Gail Nonnecke, Global Professor in Global Resource Systems at (515) 294-0037 or nonnecke@iastate.edu.

METAMORPHOSIS

Story by Barb McBreen
Image by Christopher Gannon

One day Cody Acevedo woke up and decided waiting tables wasn't what he wanted to do the rest of his life.

"I was thinking about what made me happy when I was a child and it was nature," says Acevedo, a senior in animal ecology.

More specifically, it was a fascination that began with a butterfly hunt in Milwaukee when he was five years old. He remembers his dad making a net out of mesh stitched to a hanger. The two went to an abandoned lot filled with weeds and wildflowers.

"We jumped the fence to catch butterflies," Acevedo says. "My dad pinned them to a board and I was fascinated by their colors and intricate designs."

That fascination continued into middle school where he planned and planted butterfly gardens. In high school he collected eggs and hatched them in 20-gallon tanks in his room. He says there were so many he could hear them munching on leaves at night.

"I was obsessed," Acevedo says.

He started college in Wisconsin, but because of financial difficulties he had to drop out. Acevedo said it was disappointing because he remembered a high school teacher pointing out that half of the students sitting in her class wouldn't make it through college.

"I was determined not to be that student," Acevedo says, "but there I was. And those words stuck with me."

When he decided to go back to school he found Iowa State was one of the few universities to offer a major in animal ecology. Pursuing that major allowed him to work as a summer research assistant for the Iowa Monarch Conservation Consortium.

Last spring Acevedo joined 15 other students on a trip to Yellowstone National Park. Mike Rentz, assistant teaching professor in natural resource ecology and management, says the trip's purpose is to show students they can be the scientists doing research in areas like Yellowstone. (Read more about Rentz on page 10.)

"The Yellowstone trip helps them recharge their souls and it shows them that they can, and they should pursue these possibilities," Rentz says. "Cody really believes this, and I can't wait to see what he does in his career."

In September Acevedo was nominated and received the George Washington Carver Spirit of Innovation and Service Award, which is sponsored by the George Washington Carver Birthplace Association. The award is presented to first-generation college students who are focused on science and research with the goal of continuing their education.

For Acevedo, being nominated for that award was validation he was on the right track. He describes it as an inspiring experience.

"To be in the same room with all these awardees was inspiring because they deemed me to be worthy of this award," Acevedo says.

After he graduates in May 2021, Acevedo says he's looking forward to graduate school and hopes to focus on conservation and habitat restoration.

Cody Acevedo's love of butterflies led him to pursue a major in animal ecology. He earned a national George Washington Carver Spirit of Innovation and Service Award this fall for his focus on science and research.

A CHANGING VIEW OF AG

Story and Images by Melea Reicks Licht

When Patrice Bailey surfaced from the subway and made his way home from high school in Harlem he saw both Meryl Lynch's "Charging Bull" statue and the Apollo Theater.

As the assistant commissioner of the Minnesota Department of Agriculture, he has gained quite a different view.

Bailey ('01 MS agricultural education and studies and international agriculture) maintains an intense pace. He oversees outreach, agricultural marketing and development, dairy and meat inspection and food and feed safety.

During one week this fall, his agenda included visiting with the White Earth Nation and Tribal College, observing sugar beet harvest, engaging urban students in agriculture and facilitating panels on farm viability and how to foster inclusivity in agriculture.

"I serve as the tribal liaison and coordinate emerging farmer listening sessions to advance the success and sustainability of immigrant farmers, farmers of color and beginning farmers," Bailey says.

He moved to Minnesota in 2005 and joined the Department of Agriculture this summer. He was previously the outreach coordinator for the Council for Minnesotans of African Heritage. Before moving to Minnesota, he worked at Wartburg College in Waverly, Iowa.

"Patrice has already demonstrated a skill for broadening the conversation around agriculture and state policy to include people who are often left out. His passion for agriculture and expertise working with communities of color are a vital asset to the Minnesota Department of Agriculture," Commissioner Thom Petersen says.

How did this city kid from New York, New York, find his way to agriculture? His mom, a midwife, pointed the way.

"She said no matter where in the world I find myself I could always be employed in the agriculture industry," Bailey says.

He earned a degree in agriculture from Prairie View A&M University, a historically black college in Prairie View, Texas, and says the legacy of George Washington Carver — Iowa State University's first black student and faculty member — helped draw him to Iowa State for his master's.

"My time at Iowa State was life changing. This university is really based on agriculture, and agriculture is based on relationships," he says. "People here want to help you be successful."

Bailey returned to Iowa State this August, and met with administration, faculty and students.

"Be bold and courageous. Chart your own educational course. Your relationship building and community building start here," Bailey told members of the Iowa State University chapter of Minorities in Agriculture, Natural Resources and Related Sciences, of which he was a member while a student.

He also visited with classes in agricultural education and agricultural economic policy. Students peppered him with questions about everything from hemp production, to mental health initiatives, to career opportunities in public service.

"Part of my job is to change the narrative about what agriculture is and what it isn't. Agriculture is everything," Bailey says. "In agriculture you can write your own ticket."

Above: **Patrice Bailey** (front, center), assistant commissioner of agriculture, met with administration, faculty and students (including students and members of the CALS Diversity and Inclusion Committee) during a visit to campus this summer. The CALS grad oversees outreach, agricultural marketing and development, dairy and meat inspection and food and feed safety for the state of Minnesota.

Inset: Bailey was hosted by Dean **Dan Robison** during his visit.

PLAY TO LEARN

Story by Melea Reicks Licht
Images Contributed

Greta (McGregor) Pennell takes the science of play seriously. But, not too seriously to dress up as an elf in the name of science.

Pennell, a professor of teacher education at the University of Indianapolis, is an international toy expert.

To get the real scoop on what toys children desire, Pennell ('79 zoology), says she needed to go straight to the source.

"The model of research was driving the results. Kids are smart, and they know the 'right' answer to give during an interview," Pennell says. "So, I dressed as an elf and hung out with Santa in two states — New Jersey and Pennsylvania. My research notes were jotted down in a teddy-bear covered notebook," she says.

Her dissertation – *Doing Gender with Santa: Gender-typing in Children's Toy Preferences.*

SPARK FOR SCIENCE

The misconception that girls can't be scientists was never an issue for Pennell. And, she's working to make sure children, regardless of gender, can get a start in science from day one.

"Growing up and my whole time at Iowa State, I never got a feeling girls couldn't do science," Pennell says. "My father in particular nurtured a respect for the outdoors and wildlife, and Girl Scouting was another major influence in my life. At Iowa State I was in the campus gold (scout) group, and Lois Tiffany (professor of botany) was our adviser. She was another wonderfully talented, amazing woman in science who encouraged me."

Pennell's interests drew her to biology, then pre-vet and eventually to a zoology major. Animal behavior captured her attention and she honed her expertise to focus on human behavior and development.

A former high school teacher and life-long learner, Pennell has a doctorate and master's degree from Rutgers University in developmental and social psychology. She also earned a master's in educational administration from the University of Massachusetts and a master's in education from Indiana University following her time at Iowa State.

While pursuing advanced degrees she studied how people see themselves within a gendered framework including how kids think about themselves.

"One of the interview protocols was having people describe their bedrooms, including their toys and games and what they like to do," Pennell says. "I was struck by how much college students talked about toys and had them in their dorm rooms."

Her research interest grew, and she began to further examine how toys play a role in developmental psychology.

PLAYING PROFESSIONAL

Following her dissertation work, Pennell connected with other toy experts around the globe. She has served as vice president of the International Toy Research Association and recently completed a research fellowship at The Strong National Museum of Play in Rochester, New York.

"I had the chance to give a lecture at the University of Indianapolis as a visiting scholar and I could personally attest for Dr. Pennell's outstanding performance in her Gender in Toyland class," says Danielle Almeida, professor and toy researcher at the National Council for Scientific and Technological Development in Brazil. "Among her professional accomplishments, Dr. Pennell excels in administrative achievements, publications, conference presentations as well as awarded grants."

In January 2019, Pennell was one of just 20 participants in the 18th International Symposium, Workshop and Exhibition on Toy Design and Inclusive Play in Berlin, Germany. Sponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO), the focus of the workshop was to develop new toys for children and adults with various levels of ability that increase their joy of playing, support inclusive education and contribute to ecological sustainability.

TEACHING IN TOYLAND

At the University of Indianapolis, Pennell is an award-winning teacher. She offers the popular class "Doing Gender in Toyland" among her many offerings for future educators. A sample of student evaluations reveals her ability to connect with students:

- "Our final project was to actually design, execute, evaluate and present some sort of study that involved gender and children… Dr. Pennell helped me design the study, pick out which toys and colors to use and even set me up with a local preschool… It helped get my feet wet with research."
- "Dr. Pennell definitely shared her passion and dedication… This course and my research truly left a lasting impact on my opinions of how gender can affect the lives of children and their choices in toys."
- "She gave my classmates and me the opportunity to think deeper… I have a much stronger appreciation for research, I have completely changed my outlook on toys and how I will encourage my future children and future elementary aged students to interact with a variety of toys."

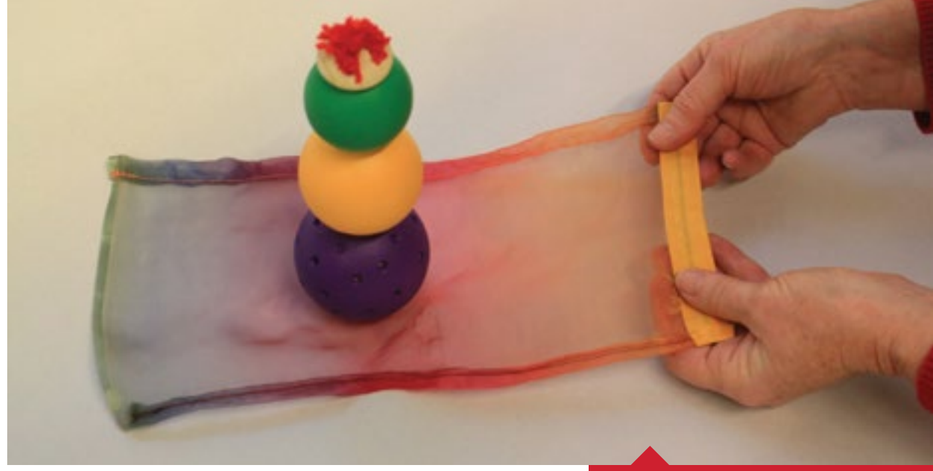
Her latest research on gendered pet toys is bringing her full-circle, back to zoology and research on non-human play.

"In much the same way traditional children's toys have morphed to developmentally staged options and expanded to boy and girl versions with tie-ins to movies and other licensed properties, so too have pet toys. This is especially the case within the dog toy segment," she says.

In addition to her official research, she's always making toys for her four grandchildren, two great-grandchildren and neighborhood children.

"I enjoy making toys and creating 'to-do' projects, whether it's in the neighborhood or on a beach walk," she says.

There's always an opportunity to play and to learn.



DON'T LOSE YOUR HEAD

Zoology alum **Greta Pennell** was one of just 20 toy experts to participate in the 2019 International Symposium, Workshop and Exhibition on Toy Design and Inclusive Play in Berlin, Germany. Sponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO), the focus of the workshop was to develop new toys for children and adults with various levels of ability that increase their joy of playing, support inclusive education and contribute to ecological sustainability.

Pennell's "Don't lose your head" toy, based on the principles of inertia, was inspired by "snow people" children often make.

"It's a very simple stacking toy made of gender-neutral green, yellow and purple wooden balls. The balls have a hole in one side and short peg in the other. The game is to stack them up on a cloth and the challenge is to pull the cloth out from under the snow person without 'loosing your head,'" says Pennell.

Good for all ages and abilities, the toy offers various levels to increase or decrease difficulty depending on fabrics and figures used.

Q&A

WITH SYNGENTA'S GLOBAL SEEDS PRESIDENT

Story by Melea Reicks Licht
Image Contributed

Jeff Rowe ('95 agricultural business), president global seeds for Syngenta, earned the 2018 Agricultural Business Club's Outstanding Alumni Award. The award recognizes Rowe's contribution to agriculture and his career achievements which include more than 21 years in several roles at DuPont Pioneer. In his current role, Rowe is responsible for global strategy and execution for Syngenta's Seeds business. Rowe also earned a law degree from Drake Law School, and a Global Executive MBA from the New York University Stern School of Business and the London School of Economics.

DURING YOUR TIME AT IOWA STATE WHO PROVIDED INSTRUMENTAL DIRECTION IN YOUR LIFE AND WHY?

I had such a great experience at Iowa State University with so many professors it's difficult to name the most influential. There were, however, a couple of classes that had a big impact on my career. Neil Harl's ag law class was a game-changer for me because it introduced me to the law in an entirely new way. For the first time, I saw the law as a critical tool for farmers and agriculture leaders. It had such a big impact on me that I went on to earn a law degree. Dermot Hayes taught an excellent advanced commodity trading class, which inspired me to work as a commodity trader for a few years. My adviser, Ron Dieter, was also a great mentor for me during my time in Ames.

WHAT IS THE NEXT GREAT AGRICULTURAL ADVANCEMENT? HOW WILL IT IMPACT FARMERS AND SOCIETY, TOO?

Data science will drive the next big advancement in agriculture. Not just predictive, but new prescriptive analytics capabilities developed in other industries have the power to accelerate innovation in agriculture. One example is the technology used by Netflix to make personalized viewing suggestions. While a plant breeder has trial data from only a limited number of locations and years, we can use the same types of preference algorithms from the video streaming world to predict hybrid performance in untested environments. Advancements in data science, coupled with sophisticated genetic tools will not only improve productivity, but also help create a more sustainable agriculture system.

FROM YOUR EXPERIENCE, HOW DOES THE PUBLIC REGARD SCIENCE AND HOW SHOULD THEY? WHAT DOES THAT MEAN FOR AGRICULTURE?

Today only 2% of the U.S. population works in any connection with agriculture, and there is less and less informed discussion about plant science and breeding. The decision in Europe to regulate gene editing in the same way as GMOs (genetically modified organisms) is a good example of this. This type of non-science based decision is not good for agriculture or society. It can be challenging, but we — industry, farmers, associations — need to do a better job at telling our story.

WHY IS SYNGENTA COMMITTING BILLIONS OF DOLLARS TO ADDRESS CLIMATE CHANGE IN AGRICULTURE?

Climate change is a threat to us all. Farmers are on the front line, feeling the effects of droughts, floods and other forms of extreme weather. Agriculture needs to be part of the solution and, if we get it right, can be a net positive in the global climate challenge. We're committing $2 billion over five years to advance sustainable agriculture, and to reduce the carbon intensity of Syngenta's operations by at least 50% by 2030.

WHAT ADVICE WOULD YOU GIVE NEW STUDENTS ENROLLING IN THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES?

My advice to students is to seek to obtain the broadest, most diverse educational experience possible. While my experience in the College of Agriculture and Life Sciences was exceptional, what really helped me was complementing that core education with totally unrelated courses. For example, I took a graduate level religion class, I studied abroad for a semester, I worked in a research laboratory, and I earned a minor in psychology — that is a rather untraditional background for an ag business undergrad. I see many students get too locked into their curriculum and they could be missing out on some excellent opportunities to greatly broaden their thinking and experiences. One of the most important skills a student needs to learn is how to interact with different people from different backgrounds. And one of the best ways to learn this skill is to get a diverse educational experience.

HOW DOES A COMMITMENT TO DIVERSITY AND INCLUSION IMPACT SUCCESS?

There is a lot of evidence that shows diverse teams outperform and are more innovative. Creating an inclusive environment where everyone can thrive is a priority for me, and I spend a lot of time talking to employees across Syngenta about this. We recently had a month-long campaign focused on mental health. Not everyone is comfortable, but the most important thing is we start to have open conversations. Agriculture in the U.S. has a long way to go, but I see there is a lot of good practice across the industry and groups like the Cultivating Change Foundation are doing a fantastic job. It's a journey.

WHAT DOES SUCCESS LOOK LIKE?

If we can get to a point where it's the norm to have balanced representation at senior levels in organizations — whether that's gender, ethnicity, age — this will be a huge step forward, and a lot will follow from this. But what I would like to see is an environment — even a society — where we have true diversity of thought. This will enable us to bring the best minds to the table to solve some of the world's biggest problems including how we help farmers sustainably and safely feed the world.

Jeff Rowe, president global seeds for Syngenta, earned the 2018 Agricultural Business Club's Outstanding Alumni Award. Club logistics coordinator **Sadie Gravel** and president **Riley Arthur** presented him with the award. Rowe encourages students to pursue diverse educational experiences and says developing an inclusive society is key to solving the world's top problems.

Story by Chris Kick
Image Contributed

STRATEGIES THAT HELP

MENTAL HEALTH FIRST AID FOR FARMERS, COMMUNITIES

> "Being involved with farming means that you're used to doing a lot on your own. But sometimes, even the best of us need help from others."

STORIES EXTRA: www.stories.cals.iastate.edu
The Iowa State University Extension and Outreach Iowa Concern website provides information on stress, financial and legal assistance and their team offers a 24-7 support line at 1-800-447-1985. Visit STORIES website to find links to the mental health publications and resources mentioned in this article and more avenues for support.

Farmers often are the kind of people who like to handle their own problems — hardworking, determined and self-reliant. Asking for help can be difficult.

That's according to David N. Brown, behavioral health state specialist with Iowa State University Extension and Outreach. He says the economic problems farmers face today may be more than they can handle on their own.

"They may try to tough it out; however, toughing it out just may not work anymore," Brown says. "They may need more help than they realize."

According to Brown, suicide numbers in rural areas remain high, and there is mounting evidence farmers are feeling the emotional and mental burdens of a difficult farm economy.

TAKING ACTION

In order to combat the issue, Brown is working with staff and faculty across Iowa State University Extension and Outreach to provide mental health resources to farmers and the communities where they live.

Mental health resources were provided at every farm bill meeting held across the state this fall — more than 50 in total. Numerous resources are available year-round via local and state extension specialists.

- In "Stress on the Farm: Strategies that Help," participants review the signs of stress, how to cope and help others to cope.
- A similar program, called "Stress on the Farm: Strategies to Help Each Other," offers a 40-minute scenario-based suicide prevention training.
- The "Mental Health First Aid" is an internationally recognized program that offers eight hours of training designed to give members of the public key skills to help others who are developing a mental health problem, or experiencing a crisis.
- The "Question. Persuade. Refer." program is a one-hour educational initiative designed to teach lay and professional gatekeepers about the warning signs of a suicide crisis, and the appropriate response.

ONGOING EFFORT

In partnership with extension staff across the state, Brown is connecting with farmers and their organizations.

Mental health issues can arise even in good economic times, but usually more so when times get tough, says Chad Hart, associate professor in economics and extension grain markets specialist.

Hart has partnered with Brown in adding mental health programming to extension programs, including the farm bill meetings, and also at industry conferences including the Iowa Farmers Union statewide convention held in December.

Although it's a sensitive topic, Hart says farmers seem to appreciate the discussion, as long as they're approached responsibly and in a way that avoids singling them out.

"Being involved with farming means that you're used to doing a lot on your own," says Hart. "But sometimes, even the best of us need help from others."

PROVIDING EMPATHY, RELIEF

Reviews by farmer participants show the programs they've attended have been valuable. Some have commented on how they can now, "understand other people's possible problems," and that extension and outreach "needs to be commended," for raising awareness about the issue.

"With the current economic environment in agriculture, along with the weather this past year, this is something that could be laying below the surface, that may surface before long," one participant wrote in a program evaluation.

As mental health gains recognition across the nation, more resources and programs are being made available.

In October, the United States Department of Agriculture awarded $480,000 to Iowa State University's Extension and Outreach's mental health efforts, as part of the Farm and Ranch Stress Assistance Network program, authorized in the 2018 farm bill.

Looking ahead, 2020 will be a big year for mental health awareness and outreach.

"I feel that we're really ramping up our programming, among our own staff and also with our outreach," Brown says. "I see us gearing up and working with the agribusiness and producer community, by providing a lot of relief and useful information."

Iowa State University Extension and Outreach experts like **Anthony Santiago** (left) are partnering across disciplines to equip farmers with strategies to cope with mounting stress. Sessions on mental health are being well-received by farmers at extension programs and industry conferences.

$3.4 BILLION

Iowa State University's impact on the state of Iowa totals $3.4 billion. This reflects service to families, communities and businesses and benefits to society from an expanded economy and improved quality of life, according to an analysis conducted for the Iowa Board of Regents. Iowa State's $3.4 billion impact supports **42,640 jobs**, or **1 of every 49 jobs** in Iowa.

99 → MILLIONS

With a presence in each of Iowa's **99** counties, **Iowa State University Extension and Outreach** helped over **10,300** companies and organizations and nearly **16,000** farmers across the state last year. Agriculture and Natural Resources Extension has a network of campus-based state specialists and field specialists including: agricultural engineering, commercial horticulture, farm management, field agronomists, beef specialists, swine specialists and dairy specialists. Together, their outreach to Iowans resulted in:

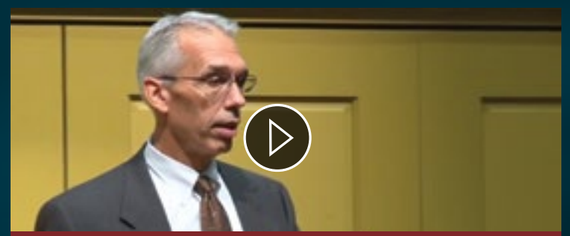
- **2.2 million** downloads
- **1,424** articles in the media
- **861** newsletters
- **2,861** media interviews
- **6.1 million** team/center website views
- **288,489** total direct contacts
- **8.9 million** total indirect contacts

278

CALS Career Day drew a record 278 employers this fall. The career day remains the largest agriculture and life sciences career fair of its kind in the nation. Approximately **2,000** students attended representing 69 Iowa State University majors and 13 other schools.

HEARTY HELLOS:

- **Billy Beck** ('18 PhD environmental science), assistant professor, natural resource ecology and management; extension forestry specialist, ISU Extension and Outreach
- **Richard Gates**, director, Iowa Egg Industry Center
- **Daniel Nettleton**, professor and chair, statistics
- **Beth Reynolds**, extension beef program specialist, ISU Extension and Outreach
- **Kay Stefanik**, assistant director, Iowa Nutrient Research Center



DEAL LECTURE: LESSONS IN LEADERSHIP AND LIFE

Jim Knuth ('84 english), senior vice president for Farm Credit Services of America, the largest agricultural lender in the Upper Midwest, presented the 2019 William K. Deal Endowed Leadership Lecture on Oct. 2. Knuth's presentation, "Lessons in Leadership and Life," is available online at www.alumni.cals.iastate.edu/lectures.

1888

The **Iowa Agriculture and Home Economics Experiment Station** has addressed the needs of Iowans since **1888**. Experiment Station research helps Iowa remain a world leader in food production and address societal issues intimately linked to agriculture: economic development, life sciences, the environment, public policy, families and communities. Experiment Station research resulted in 8 of ISU's 34 new patents, licensing and commercial agreements last year.

1,397

The college's undergraduate student body is the third largest among agricultural colleges in the nation: **4,821 — 4,169 undergraduates and 652 graduate students**. Enrollment reflects the **largest graduating class in CALS history** with a record **1,397 degrees awarded**. **Top 5** undergraduate majors: animal science (983), animal ecology (418), agricultural business (391), agricultural studies (302) and industrial technology (274).

98%

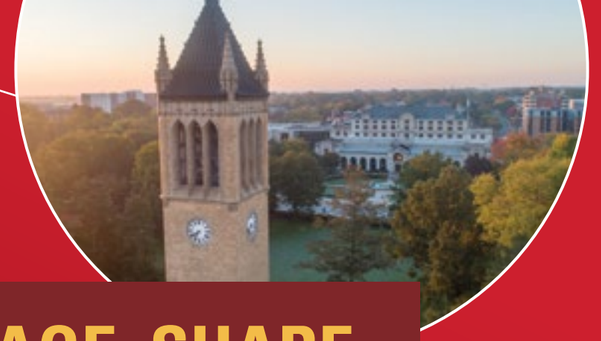
More than 98 percent of graduates are placed in careers, pursuing higher education or serving in the military within six months of graduation.

$4 MILLION

Supportive alumni and friends provide **more than $4 million** in scholarships annually through the college and its departments.

FOND FAREWELLS:

- **Ed Adcock**, communications specialist, CALS communications, retired in August
- **Don Beermann** ('71 animal science), professor and chair, animal science, retired in January
- **Carl Bern** ('73 PhD ag engineering), professor, agricultural and biosystems engineering, retired in June
- **Sue Blodgett**, professor and chair, entomology and natural resource ecology and management, retired in May
- **Joe Cordray** ('71 animal science), professor and Smithfield chair in meat extension, animal science, retired in December
- **Robert Dodds** ('77 ag and life sciences education, '85 MS), assistant vice president, ISU Extension and Outreach, retired in June
- **Steve Hoff**, professor, agricultural and biosystems engineering, retired in July
- **Robert Martin**, professor, agricultural education and studies, retired in January
- **Joe Sellers** ('76 animal science, '91 MS ag education and studies), beef field specialist, ISU Extension and Outreach, retired in October
- **Leo Timms**, Morrill Professor, animal science; dairy extension specialist, ISU Extension and Outreach, retired in September
- **Mark Westgate**, professor, agronomy, retired in June
- **Gretchen Zdorkowski**, senior lecturer, agronomy, retired in May



CONNECT. ENGAGE. SHARE.

As ALUMNI, you are our STRONGEST SUPPORTERS and BEST AMBASSADORS.

In this issue of STORIES, we've highlighted a few opportunities for you to help financially support our students and programs — or to help us get the word out to prospective high school students on the extraordinary careers and experiences that lie ahead for them as students in one of our majors.

These are only selected examples of numerous ways you can support our college. If you're interested in learning about expanded opportunities based on your interests, please contact STORIES editor Melea Reicks Licht, stories@iastate.edu.

Thank you for how you continue to connect, engage and share! You are part of the team that makes us a world-class college of agriculture and life sciences!

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students.cals.iastate.edu/come-visit/

Visit campus this spring semester to sit-in on a class, meet current students, connect with an adviser and tour our world-class facilities.

Schedule now to secure the best dates for spring.

WE WANT TO HEAR FROM YOU!

NAME

DEGREE INFORMATION

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Please Specify

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College of Agriculture and Life Sciences

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