BY STUDENTS, FOR STUDENTS, ABOUT STUDENTS
CALS CONNECTIONS
FITTING THE PIECES TOGETHER
When we think of agriculture, we picture a puzzle. Each piece within this puzzle plays a very unique role, yet fits perfectly among the rest. Connections within agriculture are symbiotic - they benefit one another and come together to create something greater than themselves. The relationships within Iowa State University’s College of Agriculture and Life Sciences represent a perfect example of this connection.

This issue of CALS Connections explores how individuals, groups and departments benefit their college, make a difference across campus, connect with their community, and impact the world.

Valuable experience gained during CALS students’ academic careers continuously reciprocate back to others, from students aspiring to be agricultural educators to those who enhance the lives of people across the globe. Research efforts and unique clubs extend beyond solely benefiting students and faculty by creating positive impacts throughout the Iowa State community, the nation and the world. Relationships cultivated through CALS continuously impact the ‘bigger picture’.

As you read ‘Fitting the Pieces Together’, think about your unique role in CALS and at Iowa State. Appreciate the multitude of opportunities and resources designed to facilitate your aspirations to contribute to agriculture in your college, campus, community and world. We hope you enjoy reading this issue of CALS Connections.
About the Cover

The College of Agriculture and Life Sciences is a collection of student experiences, accomplishments and hard work. The cover image illustrates how each piece of the college fits into the ‘bigger picture’ that is CALS. Photos on the cover were taken by: Joclyn Bushman, Amanda Crow, Erin Chalupa, Cassidy Krichau, Kristen Lowe, Madeline McGarry, Nick Howell, and Amy Toth.

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As part of a land grant institution, the Iowa State University College of Agriculture and Life Sciences (CALS) promotes and conducts agricultural research and provides hands-on opportunities for students to explore the agricultural industry. Iowa State University owns and uses several farms near campus and across the state. Through these farms and various research projects, CALS fulfills the university’s land grant mission by engaging students, connecting campus and impacting the community.

The university owns nine different livestock farms around campus, each with their own specific goals and practices. These farms include: the beef teaching farm, beef nutrition farm, dairy science farm, equine farm, poultry science farm, sheep teaching farm and three swine farms dedicated to research, teaching and nutrition. In addition to the livestock farms, the agronomy and horticulture departments each operate their own research farms. The agronomy department has nine different farms that are used in teaching and research while the horticulture department operates the Horticulture Research Station and Reiman Gardens, both of which are vastly student run.

Along with producing agricultural products, most of these farms are primarily research-oriented operations dedicated to teaching students and improving practices in the industry.

Iowa State operates over 12 additional research farms across the state, some of which are owned by the university and some by groups of farmers. One of the ways the university uses these farms is to conduct research in every available soil type in the state. This is done in an effort to gather data that can be used beyond central Iowa. The data is assembled into an annual report, available online and in paper, as a resource for farmers, professors and extension staff.

**Connecting with CALS**

The Iowa State University farms have many opportunities for student involvement, from classes to employment. The numerous farms located near campus employ over 200 undergraduate students each year and offer over 30 hands-on classes.

These farms rely heavily on student work; from feeding livestock to conducting research and gathering data, students are involved in every aspect of operations. Matthew Lansing, a junior studying animal science, is one of the many student employees at the ISU Dairy Science Farm. As an undergraduate employee, Lansing works primarily with dairy cattle research and helps with other tasks around the farm as needed. “I chose to work at the dairy farm as a way to connect with professionals in the industry and learn about dairy research,” said Lansing. “I think my experiences there will set me apart and give me an advantage in my future career.”

There are over 30 courses that work in conjunction with the livestock farms alone. These courses allow students to apply classroom knowledge directly to real world situations and practice what they have been taught. Students enrolled in certain animal science courses participate in herd management, feeding, breeding and record-keeping on the farms. The agronomy and horticulture departments offer classes for students to be involved in all aspects of planting, harvesting and selling products. Because of these uniquely designed hands-on courses, students gain skills that will prove useful for their future careers in agriculture and beyond.

The ISU farms not only benefit students and staff but they mutually benefit each other in many ways. The farms all work hand-in-hand to reduce costs, foster teamwork and network with other sectors of the industry. According to Ben Drescher, the Iowa State University Livestock Farms Director, the beef teaching farm buys corn silage and corn stalk bales from the agronomy farm and the Ag450 Farm, fostering a connection between livestock and plant agriculture. The horse farm, beef teaching farm and sheep farm all share large equipment which cuts costs and promotes teamwork between the different farms and their employees. “We’re all working for the same university,” said Drescher, “so we try to help each other out whenever we can.”
Connecting with Campus

In addition to benefiting students within CALS, the ISU farms impact campus as well. The farms create a collaborative ‘circle of life’ across campus through product sales and composting.

The beef, sheep and swine farms sell meat through commercial markets and to the ISU Meat Laboratory. The product that is sold to the meat lab is used for students in meat science courses and then sold to the public out of the lab. The Horticulture Research Station also helps create an accessible local product for campus. The research station provides apples, peppers, onions and cucumbers for on-campus dining centers. According to Nick Howell, the Horticulture Research Station superintendent, one half of all the apples in ISU dining centers are grown at the research station, less than 10 miles from campus. By selling products back to the university, the farms not only provide further education to students, but locally-sourced produce for the community.

The ISU farms and the university campus are also connected through compost. Iowa State University owns a state-of-the-art composting facility located near the dairy farm a few miles from campus. This facility was built in 2008 and has seven large covered shelters where organic waste is stored, aerated and cured into amended soil, fertilizer and animal bedding. These covered buildings can hold up to 10,000 tons of organic waste and provide an environmentally responsible way to reuse organic material. These buildings are designed to reduce the release of methane and nitrogen into the atmosphere and efficiently create more nutrient-rich recycled product.

Organic waste from all campus dining centers, solid manure from the livestock farms, organic matter from the horticulture and agronomy departments, and plant remains from Reiman Gardens are all sent to the compost facility. Nutrient-rich soil created from the compost is then used around campus during construction projects and landscape repairs. The waste can also be composted into fertilizer which is used both on the farms and around campus in flower beds and gardens. Some compost is cured even further to be reused as bedding for the livestock farms. By recycling organic material, the university reduces costs for fertilizer and soil. The Iowa State Compost Facility assists in campus sustainability and ensures no organic material goes unused.

Connecting with the Community

The Iowa State University farms have an impact that extends beyond the university campus. One of the biggest ways the farms impact the community is through tours and Iowa State University Extension. Most of the farms create an annual report of their research findings and accomplishments. These reports are then used at the extension level for continuing education for farmers, community members and 4-H programs. By publishing these reports, Iowa State is helping advance the agricultural industry in Iowa and beyond.

The farms also offer a number of tours to 4-H clubs and community groups. According to the Iowa State University Research Farms web page, the research farms alone each host anywhere from one to five field days a year with an average of 15,000 visitors annually. These field days are an opportunity for farmers and producers to experience what Iowa State is doing and learn from their operations. The field days also provide a way for 4-H youth to explore agriculture and learn about the programs offered by Iowa State.

Another way the farms impact the community is through the actual production practices of each farm. The high quality, locally grown meat from the beef, sheep and swine farms is available to the community as a portion of the products are sold in open commercial markets. The dairy farm sells milk to Prairie Farms which can be found in the local grocery stores around the Midwest. The ISU horse barns impact the horse racing industry in Iowa and beyond through contracting privately owned horses from around the nation to breed, foal and stable throughout the year.

The Iowa State University farms have an immense impact on students, campus and the community. The farms help students network with professionals in their field, build connections with each other and work as a team. Campus is impacted by compost from the farms and gardens and is able to provide students with locally grown produce. The farms not only benefit the Ames community but reach beyond central Iowa at the state and national level. These farms provide ISU students a specialized, hands-on experience that is unique to the university.
The College of Agriculture and Life Sciences Ambassador program works throughout the academic year to assist the college in recruiting prospective undergraduate students. This ambassador program is made of 95 students from nearly every major within CALS and members in nearly every CALS student organization. “We have the opportunity to show off the best of our college, and are a great and diverse representation of the College of Agriculture and Life Sciences,” says Kayla Toennies, Vice Chair for the CALS Ambassadors.

CALS Ambassadors connect with prospective students, their families and alumni in various events throughout the year. Offering custom visits, presenting to high school classes, hosting Junior Visit Day and planning the State FFA Leadership Conference BBQ are just a few of the events CALS Ambassadors are able to participate in. By having current students make personal connections with prospective students, they are able to share direct experiences of their adventure while also informing families of various resources available on campus.

In the fall of 2017, the CALS Ambassador executive team reintroduced the Principles of Community to the program. The principles were originally proposed in 2007 by the Government of the Student Body and approved by Iowa State University President Gregory Geoffroy. The CALS Ambassadors executive team used the principles to outline goals they would like to see the student organization accomplish and improve upon. “We discussed being transparent with everyone, the importance of working together as a team for success, respecting others regardless of differences in opinions while also recognizing the importance of different backgrounds,” says Toennies. “We wanted all ambassadors to understand our purpose even though we all represent different majors.”

More work happens behind the scenes to provide the best experience for visitors. Networking with faculty, looking into various resources and programs, and connecting with student organizations outside of CALS are just a few of the ways the ambassadors do this. During main meetings, the executive team invites presenters from different offices to share what their department can offer, and how to present those opportunities to students and their families. Examples of such are the CALS Multicultural Student Services, Career Services and the CALS Study Abroad office. Additionally, each member is placed on a committee that will host specific events throughout the year.

Toennies credits the CALS Ambassador program with helping her grow as a leader, improve in delegating tasks and build trust in her colleagues to complete their tasks on time. “I think being an ambassador has also helped me gain appreciation for our college and connect with so many prospective students, families and university faculty. I have found a ‘home’ here at Iowa State University, and I have ambassadors to thank for that.”

Email calsamb@iastate.edu for more information.
The College of Agriculture and Life Sciences encompasses a wide range of majors, minors and focus areas. It is not uncommon for students in one department to reap benefits from another. The Natural Resource Ecology and Management (NREM) department is one way many CALS students expand their knowledge beyond the constraints of their respective major’s courses. With classes covering ecology, hydrology, forestry and conservation, the department offers a wide variety of courses to students at Iowa State. Many students from different CALS majors have seen an enormous benefit from their time in the NREM department.

One of those students is Savannah Keitzer, an agricultural communications major with a focus in agronomy and a leadership studies minor. Keitzer enrolled in NREM 130, Natural Resources in Agriculture, because she found the course relatable to her focus area. As someone who hopes to work in public or corporate relations for an agricultural company, she feels much of the information she’s learned is relevant. “Everything we learn [in class] can be applied to our daily lives,” said Keitzer. “We’re going to need to know how to deal with these issues in the future.”

Another student who sees the value in NREM courses is Tristan Dittmer, an agricultural studies major with agricultural business and agronomy minors. Dittmer, who is also in NREM 130, is taking the class to stay updated on trends and research in agricultural resource management. He affirms that the material covered in class will help him be proactive with natural resource conservation on his family farm, somewhere he hopes to return after graduation. However, Dittmer also hopes to work elsewhere in the industry before returning to the farm, and his time in NREM 130 has opened his eyes to other potential career opportunities. He notes that he’s learned “a job in [agricultural resource management] would be time well spent.”

Both Keitzer and Dittmer credit their professor, Tom Isenhart, with facilitating the course in a way that makes the content applicable and relatable. Isenhart confirms this is a goal of the department. “NREM… prides itself on truly mentoring students,” said Isenhart. “We strive to really get to know them as individuals and to provide learning opportunities that extend beyond the classroom.”

Some students choose to interact with the NREM department in a different way. One unique way NREM contributes to the college is by offering a study abroad trip to Antarctica. The course, which makes it possible to study abroad in every continent in CALS, is offered every other fall semester and travels in December. Students across a wide variety of majors enroll in the travel course when it is offered and embark to our planet’s most northern continent.

Tom Isenhart says, “All CALS students who take an NREM course, regardless of their major, appreciate the important perspectives they gain throughout the semester.”

Savannah Keitzer (top) and Tristan Dittmer (bottom) have found new agricultural passions through NREM 130, thanks to their professor Tom Isenhart (center). Photo Credit: Emily Campbell
While golfers enjoy a brisk morning on the course, the manicured green beneath their feet may go unnoticed. Behind the scenes, golf course superintendents devote their time and talents tending to the backdrop of every perfect golf outing. These lawn professionals work hard to ensure the proper maintenance and care of the turf. Students at Iowa State University are learning how to do the same.

Housed in the horticulture department, the turfgrass management program has been gaining in popularity and recognition. The major includes courses in mathematics, science and communications as well as hands-on training through early field experiences and internships. Students learn the unique set of skills and methods needed to manage turf, but are also encouraged to exercise their individual creativity. Kylah Crooks, a senior in the program, appreciates how internships have benefited her skills and understanding in turf management. “They’ve made classwork easier,” said Crooks, talking about her internship experiences. “I’ve consistently been exposed to new methods and ways of doing things.”

Kylah interned with Veenker Memorial Golf Course until May 2018, and has since begun working for ISU Athletics on the Grounds Crew at Jack Trice Stadium. Tasks typically vary depending on the day, but can include: mowing, painting and trimming the field. In turn, Kylah’s work in the classroom has provided new perspectives as to why procedures are performed in specialized ways.

Winter brings two competitions for students in the Turfgrass Club. A semester-long class in the fall prepares students planning to compete. Knowledge regarding irrigation, weed and seed identification and business techniques are all portions of the competition, along with various other aspects. In January 2018, Iowa State students placed first, for the first time, in the Sports Turf Managers Association (STMA) competition. It is evident that trips to Jack Trice Stadium, internships and intense contests thoroughly prepare these future professionals.

Though it may not be first instinct to admire the lush, green sports field, it would not be possible without the time, precision and care these students are trained to perform.
There is much to talk about when it comes to agriculture. Even within the Iowa State University College of Agriculture and Life Sciences (CALS), topics such as new research milestones, exciting events and pressing issues arise. News dialogue is essential to keep consumers and producers informed. The Iowa State Daily fulfills that role for the Iowa State community.

Each day through news stories and opinion articles, the Daily paints a picture of happenings across campus, Iowa or the nation that affect the university. However, agriculture can be a difficult topic to report or write on.

Recent graduate Adam Willman served on the Daily’s Editorial Board for four semesters. A double major in agronomy and global resource systems with a horticulture minor, Willman felt well-versed in the agricultural industry. “Staying up to date on agricultural issues was something I already did,” said Willman, “but writing for the Daily made me look at issues more in-depth. I am passionate about writing opinion pieces because I can use my voice to explain why people should care about various topics.”

The Daily tells stories in many different ways. Journalists write news articles on newsworthy events and timely happenings. The role of a news article is to remain unbiased and tell the facts precisely. Columnists, like Willman, find topics or issues relevant to the ISU community and discuss them with the other members of the Editorial Board. These individuals agree on a collective opinion and begin researching facts to support that opinion. Columns are meant to create dialogue among readers because they are not written as unbiased as a news piece.

Willman finds agriculture an especially difficult topic to write about. “Agriculture incorporates so many things,” said Willman, “Food is personal and farming is a generational livelihood. Both invoke strong emotions, and when you introduce that amount of emotion to a hard science like agriculture, it becomes harder to talk about in a clear way.”

Former Iowa State Daily Editor in Chief, Emily Barske, understands that Iowa State Daily agricultural columnists occasionally hold different views than some CALS students. “We need a wider range of agricultural representation on the opinion side,” said Barske. “I love when columns spark letters from CALS because that’s when we have discussion. It would be nice to have those views working for us on the Daily.”

“Better dialogue starts with more interactions between CALS and the Greenlee School of Journalism,” said Willman. “You need both storytellers and fact-finders. Even columns need to be based on fact and reliable sources. If CALS students don’t like the way a dialogue is going, we need them to contribute to that dialogue in a positive way. I want to see students add to the accuracy of sources or provide a different perspective.”

Interested in adding your views to the Daily team? Contact Editorial Adviser Mark Witherspoon at spoon@iowastatedaily.com to see where your talents fit best.
The College of Agriculture and Life Sciences (CALS) offers students multiple opportunities to get involved with competitive teams. These organizations often lead to networking opportunities and hands-on experience. Being part of teams such as the National Agri-Marketing Association (NAMA) competitive marketing team, ISU Meat Judging Team or the Dairy Cattle Judging Team help individuals connect to the agricultural industry.

National Agri-Marketing Association

The National Agri-Marketing Association (NAMA) offers students an opportunity outside the classroom to apply their skills in developing a professional marketing plan. Courtney Davis, NAMA student chapter president and junior in agricultural studies explains, “The competitive marketing team has provided me with experience in conducting research and creating a marketing plan, while also strengthening my skills in design and sales. These elements are a necessity in the job market and employers are amazed by how applicable the skill set that results from being on the team provides.”

Students in NAMA not only grow their abilities, but also get the opportunity to network with professionals in the industry. Kristi Goedken, a sophomore in agricultural communications and secretary of NAMA, is very impressed and grateful for all the connections she has been able to make.

“Joining NAMA allows me to connect with industry professionals on a personal basis,” said Goedken. “These are professionals that I can go to if I have a question about academic courses, cover letters and resumes, and any questions regarding positions within the agricultural field.”

ISU Meat Judging Team

Students looking to gain experience in the meat industry may be interested in the ISU Meat Judging Team. Team members compete against other collegiate teams in eight contests all over the nation. In the fall, the team takes classes to learn the basics of meat judging and evaluating. They focus on terminology, note-taking and using notes to write reasons. To prepare for contest, students go to harvest facilities such as Tyson, Cargill and JBS. Here they are exposed to various professions and opportunities within the industry.

Through the team, Carl Frame, 2016 team coach and current graduate student in the Department of Animal Science, has met many great
people and feels connected within the industry. “The meat industry is quite small and many people at the companies not only are Iowa State graduates but have judged meat,” says Frame. “This makes it that much easier to start a conversation.”

Dairy Cattle Judging Team

The Dairy Cattle Judging Team also offers team members many opportunities to get involved within their industry. To prepare for contest season, team members start practice in August and travel to dairy farms in northeast Iowa. Mary Scott, a senior in dairy science, shares how much she enjoyed this experience. “Making connections with these farmers is very important, as they are the ones who support the industry every day,” says Scott. “It is so cool to interact with them and see the types of animals that they breed.”

At contests, teams of four evaluate and place 10 to 12 classes of four dairy cattle. Then, teams present oral reasons. Through contests, participants meet many students from other schools. “I would say that the greatest number of connections are made with the other judging teams from other schools,” says Scott.

Beyond the aforementioned clubs and organizations, there are a number of other competitive teams that within CALS and are designed to allow students the opportunity to become engaged within their respective professions. Check them out at www.stuorg.iastate.edu.
Iowa State University is more than just colleges, classes and clubs. Iowa State University Extension and Outreach is a whole branch of the university dedicated to educating and supporting Iowans everywhere. ISU Extension and Outreach is part of the federal Cooperative Extension Service — a network of more than 100 land-grant institutions throughout the country, including Iowa State, and the U.S. Department of Agriculture.

“More than 1 million people directly benefit from ISU Extension and Outreach educational programs each year.”

- John Lawrence

Every county in Iowa has an elected extension council that decides how to support ISU Extension and Outreach educational programs in agriculture and natural resources, community and economic development, human sciences and 4-H youth development at the county level. Faculty on campus and specialists across the state develop and deliver these programs with counties and online.

“More than 1 million people directly benefit from ISU Extension and Outreach educational programs each year, including about 100,000 youth,” said ISU Vice President for Extension and Outreach John Lawrence. “We build skills in Iowa youth to improve their college and career readiness, address achievement or opportunity gaps, and encourage young people to use their skills to shape Iowa’s future.”

4-H is one of the branches of ISU Extension and Outreach that empowers youth to reach their full potential through youth-adult partnerships and research-based experiences. 4-H is a national organization that has impacted many Iowa State students, especially those in the College of Agriculture and Life Sciences (CALS). Nonetheless, 4-H provides youth with several insights into not just CALS careers, but also those pertaining to science, technology, engineering and mathematics.

Iowa State freshman Megan Nemec has personally utilized her 4-H experiences to improve her overall collegiate experience. Nemec, who is an agronomy major from eastern Iowa, served on Iowa’s State 4-H Council and has been heavily involved in the organization since she was young.

“I grew up on a farm and have been involved in 4-H my whole life,” said Nemec.

With her agricultural roots and 4-H involvement intertwined, Nemec knew that Iowa State University, and CALS more specifically, was made for her. Currently, Nemec is involved in the Agronomy Club and Block & Bridle Club on campus. She hopes to get involved in more collegiate activities in the upcoming years. However, Nemec says she gives 4-H a lot of credit for her involvement at college.

The skills that youth establish through the 4-H organization and other extension programs can be utilized beyond their years of involvement. Just as Nemec pointed out, not only did her 4-H involvement assist her with creating agricultural connections, but she also came to know that her communication skills would help her immensely.

ISU Extension and Outreach, through programs such as 4-H, can influence our Iowa State community by educating and proving resources Iowans need to succeed.

ISU Extension and Outreach Empowers Iowans

By: Rebecca Ahrendsen

Megan Nemec has been involved in 4-H through ISU Extension and Outreach her entire life.

Photo Credit: Megan Nemec
The Pursuit of Educating Others

By: Carmen Wille

Can you recall any influential agricultural education teachers from high school or earlier? Are there any outstanding agricultural professors that instill passion for your path of study? Agricultural education is a key component for creating new agriculturalists, and informing those already in the industry. Some students at Iowa State University are shaping their college career - and life - in the pursuit of educating others.

Becoming an educator in agriculture was not a hard decision for Cole Spain, a freshman majoring in agriculture and life sciences education at Iowa State University. “I want to be an advocate for an industry I was raised in,” Spain said. “I realize the impact that agriculture education teachers have on students’ lives and I want to be that influence on the younger generation once I graduate from Iowa State.” Spain’s future goals include applying the knowledge he has gained from CALS to become an agricultural education teacher.

Taylor Wilkins, a 2017 agriculture and life sciences graduate from Iowa State University is pursuing a master’s degree in the field of agriculture and life sciences education. “I decided to attend graduate school because I knew my time here at Iowa State was not finished,” Wilkins said. “Iowa State provided me the chance to get involved, be plugged in, and find my niche.” Wilkins intends on graduating in 2018 and using the experience and knowledge gained through classes to pursue a career in agriscience teaching.

The future is bright for these young agricultural education students. They, and all agricultural educators, connect the industry in the pursuit of knowledge.

What’s All the Buzz About?

By: Erin Chalupa

Have you heard the buzzing around campus? If you have, it is not coming from Iowa State University’s bees. They are occupied with something more important. In September 2017, undergraduate students, graduate students, researchers and professors launched a project called “The Prairie Project” that has been taking up all the bees’ time.

The Prairie Project is a project of very broad horizons. It is mainly focused on bee nutrition and behavior, but it also provides information about agricultural environments to farmers and beekeepers in the community. The research is studying how the corn and soybean covered landscape in Iowa affects the life of bees. Traditionally, the ideal habitat for bees is not what is typically found in Iowa, but that does not mean that bees should not be able to thrive in the area. There have been high numbers of colony loss due to many factors. This is why the project works with bees from local beekeepers to find a solution to these problems.

The bees are being relocated to different habitats and their survival, nutrition and behavior is measured. There are many different people involved but the common goal is to increase the quality of life for bees in Iowa. Biology and environmental studies major Zoe Pritchard has been a large part of The Prairie Project. “This study will contribute to a broader understanding of pollinator health in the prairies of Iowa and how we can manage land to conserve bees,” said Pritchard.

At the end of the project, ISU wants to make farmers aware of honeybees and their surroundings. They also want to provide information to local beekeepers that will help them better manage their bees. The team will be offering a general course about bee nutrition, behavior, reproduction and other topics to ISU students called Current Topics in Bee Biology [BIOL 495 AT]. Soon, bees will be able to live in Iowa with no threat to their habitats and back to buzzing around campus.
Through research efforts and education initiatives, the Iowa State University Meat Laboratory is providing wholesome meat products to local consumers while cultivating the next generation of industry leaders.

Resulting from the relationship between the lab and the U.S. Department of Agriculture (USDA) are direct connections to both Iowa State’s campus and the local community. Occurring on Wednesdays and Fridays from 11 a.m. to 1 p.m. are the ISU Meat Lab Sales, attracting ISU faculty, staff and student customers. The meat products offered at the routine sales are determined by the research, teaching or extension-related efforts conducted in the lab.

The Meat Lab is federally inspected by the USDA Food Safety and Inspection Service and is subject to the same inspection standards as all other meat product and processing facilities in the United States.

“We have a full time USDA inspector on site, and he or she is present anytime we harvest animals and does routine inspection of other processing occurring within the facility,” said Matthew Wenger, program coordinator for the Meat Lab. “Our records are monitored on a daily basis to ensure compliance with all regulations.”

The lab is also routinely made available to outside entities for conducting research and has the capability to serve as a pilot plant for the purposes of administering trial runs of products. When it comes to research endeavors sought by the lab, the USDA may also serve as the primary granting agency for specific projects.

In addition to the food retail services offered by the lab, short courses and training programs related to industry regulations and processing techniques are facilitated through the lab by ISU Meat Science Extension. Through their involvement in the Meat Science Club, students are granted the opportunity to play an active role in executing these education initiatives.

“[Meat Science Club] plays an integral part of our short course training programs by serving as assistants to project advisors and participants manufacturing products in the lab,” Wenger said. “This affords them the opportunity to work directly with some of the best industry professionals in the business and make lifelong connections and almost always shapes their future career path.”
Waking up in a dorm-like compound, Kate Stewart splashes her face with cold water. As she prepares for her day, fellow Iowa State students also prepare for a full day of coursework, service learning, working with each other and gathering information for their own projects.

Stewart, a senior in global resource systems, first experienced Uganda in the summer of 2017 with the Uganda Program through the College of Agriculture and Life Sciences Study Abroad Office. Stewart knew it was somewhere she wanted to return, however, she never anticipated how soon she would have the opportunity to travel back.

The Iowa State University- Uganda Program is a service-learning program through the Center for Sustainable Rural Livelihoods (CSRL) created in 2005 for students striving to improve global food security while advancing their education. This hands-on opportunity incorporates agronomy, nutrition, community development and youth entrepreneurship while giving back to Uganda. Students and staff from Iowa State University partner with Makerere University students in the Kamuli District.

During the 2018 spring semester, Stewart and six other undergraduates traveled back to the Kamuli District with the Uganda Program. Even though Stewart and her peers have been service learners before, this time around brought different and exciting things, one of those being a new ISU training center and dormitory that opened March 1 in the Kamuli District.

“After graduation, I want to help farmers better their agricultural management practices,” said Stewart. “This program encourages me to build relationships and understand the farmers now so I can suggest techniques in the future.”

Before leaving for Uganda, students are required to enroll in a course designed to prepare them for their adventures and unique living conditions. While the course has evolved over the years, the core remains unchanged.

“The service learning program has become more comprehensive over the years. We have engaged with the community with farm visits and bi-national team projects benefiting the school and the children,” said Gail Nonnecke, associate director for CSRL.

An unexpected outcome of the partnership between the universities has been the increase in graduate students choosing Iowa State University. Since the program began, 18 former Makerere University service learners have enrolled in Iowa State University's graduate school programs.

Samuel Ikendi, a graduate student in community and regional planning and the sustainable agriculture program believes joining CSRL brought back the ray of hope in his life.

“Surely I had no reason to be an agriculturalist before CSRL entered our family,” said Ikendi, “I grew up without seeing any successful farmer.”

Ikendi’s journey included growing maize and sweet potatoes while he watched his mother learn in trainings by the CSRL. During a difficult time, Ikendi volunteered with CSRL and was connected to Iowa State University. With the generous help of scholarships and donors in addition to the hard work Ikendi offers, he is learning new skills every day that will help him live out his passion.

From the different perspectives of Stewart and Nonnecke, one single message rings true: you will never be the same.

“The connections you’ll create between agriculture and related sciences and the experience itself transforms how you view the world,” said Nonnecke.
When you think cardinal and gold, does John Deere green come to mind too? ISU and John Deere Manufacturing Company have had an ongoing relationship for the past 20 years in the agricultural and biosystems engineering graduate program.

Graduate students in agricultural and biosystems engineering have a unique opportunity to work on their masters degree in coordination with John Deere. Professors Kevin Ehrecke and Robert McNaull see students in the graduate program as highly involved.

“The interaction with industry is huge,” said Ehrecke. “I hired a lot of Iowa State graduate students when I was still at John Deere. It’s amazing - they come in and hit the ground running. They understand what it is to own a project, be accountable, what it means to be successful in a project and to stay within a budget.”

The projects students work on are far from theoretical; these are projects that can potentially be put into production. Two graduate students in the program, Lucas Miles and Michael Hanigan, are enjoying their experience. Miles said, “The things we do are going to be in industries and making a difference right away.” Hanigan also explains, “In what you would do in your first five years at Deere is what you get out of this program. You pretty much cram that into a year and a half at Iowa State.”

The skill sets learned through this program are setting Iowa State students apart in their field. “They learned these skills and they’re good engineers,” said McNaull. “They already know how to do this kind of stuff, but we help them really learn how to apply it to a project, so when they get [to John Deere] they already know how to attack a project.”

The partnership with John Deere and Iowa State is one that is rare amongst other universities throughout the United States. This is just one of Iowa State’s many opportunities that engage students in successful partnerships.
The Dean's Global Food and Agriculture Leadership Program is unique to Iowa State University. Last semester, seven students traveled to Rome to conduct literature reviews and develop educational tools for the United Nations Food and Agriculture Organization (UNFAO). With knowledge gained both from the production and policy sides of agriculture, students enhanced their own thinking to evaluate complex issues in the context of the Mediterranean diet model.

“The small program size allows for students to build a professional relationship with the faculty in the College of Agriculture and Life Sciences and work towards future professional career goals,” recalls Aubree Beenken, who participated in the program this past summer. “While the projects were challenging, we all learned so much about working as a team and the challenges the UNFAO faces across the globe today.”

The students were split into two teams working on separate projects. One group focused on food waste education for Italian students, and the other group compared pollinator health and populations among different agricultural production models. Each team was asked by the UNFAO to complete a comprehensive literature review and develop an educational tool based on their findings.

Work on their projects began during the spring semester. While in Rome, the students worked directly with professionals at the UNFAO spending 20 to 30 hours per week on their projects. The combined coursework that occurs on campus in the spring and on-site work with professional teams in Rome allowed students first-hand research and exploration into real-world issues for global food and agriculture.

“This program was very eye-opening,” says Kacy Sampson, one of the participants. “We were exposed to some very pressing issues. The whole experience enhanced my global perspective.”

“I learned about aspects of agriculture I never knew about before,” explains Claire Okoren, another student in the program. “It helped me strengthen my research skills, writing techniques, and my ability to communicate well with others. Not to mention getting to learn all these things while living in the heart of Rome!”

The program looks for a diverse group of students, sophomore level or above, with a CALS major in good academic standing. Participants are best suited if they possess a willingness and interest in experiential learning and agriculture, natural resources, and food. If interested, contact Shelley Taylor at sztaylor@iastate.edu or visit 0018 Curtiss Hall to discover more.
All throughout college we are continuously told to get involved. It’s easy to say, “Yes! I want to get involved!” It’s harder to decide what exactly to get involved in. Every day we learn of different clubs, activities and events from our professors, colleagues and emails we receive. Within the College of Agriculture and Life Sciences (CALS), there are endless amounts of opportunities to get involved in.

Opportunities, career consultation and job offer analysis. More importantly, we take great pride in getting to know students on a personal level and providing the quality service CALS students have come to expect during their journey here at Iowa State. The Career Services office can’t help unless students take the first initiative.”

Stop by 0015 Curtiss to jump-start your career today!

**Career Services**

Many think of Career Services as something we won’t need to use until we are about to graduate. However, Career Services is a program that can be helpful throughout an entire college career. Mike Gaul, Director of CALS Career Services says, “Aside from hosting two very large career fairs each year, our office provides students with diverse services ranging from resume and cover letter writing assistance, mock interviews, networking, opportunities, career consultation and job offer analysis. More importantly, we take great pride in getting to know students on a personal level and providing the quality service CALS students have come to expect during their journey here at Iowa State. The Career Services office can’t help unless students take the first initiative.”

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**Study Abroad**

Another program many may be familiar with is the CALS Study Abroad program. Rachel Pierce, CALS Study Abroad Adviser says, “Studying abroad provides the platform for students to develop through unique educational and professional experiences, in and out of the classroom. Whether it’s developing school gardens for elementary schools in Uganda, presenting a project to professionals at the United Nations’ Food and Agriculture Organization in Italy, or touring hydroponics systems in Uruguay, students are exposed to new practices, research, people, values and more.”

Studying abroad through the CALS office can help students gain opportunities to participate in activities while abroad that are within their agricultural interest. Interested in studying abroad through CALS? Visit www.agstudyabroad.iastate.edu or stop into 0018 Curtiss Hall.
CALS Clubs

What’s the easiest way to meet new people in CALS while gaining new experiences? By joining clubs! ISU boasts over 850 student organizations ranging from birding interests to tractor re-modeling and everything in between.

Drew Abbas, president of the Farm Operations club says, “My club involvement has helped me grow tremendously during my time at Iowa State. It has allowed me to get out of my shell and become a better communicator with faculty, my peers and industry professionals.”

Farm Operations is one of many clubs within CALS. Clubs present their members with endless amounts of opportunities to grow, network and learn. Interested in browsing the various student organizations? Visit www.stuorg.iastate.edu.

ARE YOU INVOLVED IN AN AWESOME CLUB OR MAJOR?
IS YOUR RESEARCH PROJECT SOMETHING THAT YOU ARE PROUD OF?
IF YOU ARE DOING SOMETHING COOL, AND YOU ARE IN CALS, WE WOULD LOVE TO HEAR FROM YOU!

CONTACT US AT CALSCONNECTIONS@GMAIL.COM