

IOWA STATE UNIVERSITY
College of Agriculture and Life Sciences

STORIES

IN AGRICULTURE AND LIFE SCIENCES VOL.5 NO.1, 2011

AHA!

AGRICULTURE'S
ENTREPRENEURIAL
SPIRIT SHINES

14 Ag business student
brings Cy to life

18 Alumni share their
secrets to success

28 Innovation in action
down on the farm

STORIES

IN AGRICULTURE AND LIFE SCIENCES

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FOREWORD

I've always thought entrepreneurs had guts.
Lots of guts.

I'm what you would call a "risk-averse" person. Just listening to Kevin Kimle recount how he left behind a successful career at a well-established company to strike out on his own with a brand new company made me sweat. No health insurance? Just the thought makes me feel ill.

I imagined that entrepreneurs were risk-takers welcoming "opportunities" that would make many of us squirm. Sleepless nights, dwindling bank accounts and neglected home lives? I figured they were all part of the game.

Then I talked with a few of our most successful entrepreneurial alumni (see Q&A on page 18). They helped me realize that to entrepreneurs, it is about *not* taking a risk. They believe so strongly in their idea that, to them, leaving it idle is the real risk.

This issue of STORIES will offer insight into the lives of selected alumni, students, faculty and staff who embody the entrepreneurial spirit that is prevalent in agriculture and life sciences.

This issue highlights the educational efforts of our Agricultural Entrepreneurship Initiative and other student programs that are giving our students the tools to strike out on their own, or be entrepreneurial within the organization of their choice.

Kevin Kimle, the director of the initiative (profiled on page 6), makes entrepreneurship contagious. Through his classes and programs, entrepreneurial principles sound exciting, rewarding and achievable. Even the most risk-averse of us may just be inspired to take a risk and live out our passion.

Kind regards,

Melea Reicks Licht



Photo: Bob Elbert



Photo: Bob Elbert

ON THE COVER

Kevin Kimle has had more than a few bright ideas. As the Bruce Rastetter Chair in Entrepreneurship and director of the Agricultural Entrepreneurship Initiative, he helps students pursue bright futures.

Read more about Kimle on page 6.

Recently, student tuition surpassed state of Iowa funding as the primary contributor to the base of resources that keep our campus functioning. A main challenge now is to ensure students continue to receive an outstanding education and a promising future at a competitive price, while maintaining state support as much as we are able.

It also means that success in external research funding is even more critical. It's essential to be able to expand the frontiers of science—and, as state resources shrink, to shoulder greater responsibility for the vital education and training of our graduate students and a greater share of the basic infrastructure expenses that run our campus.

That is why I feel fortunate and grateful our faculty in agriculture and life sciences are some of the very best at competing for external grants and contracts. They work very hard at it. During a span of six months in 2010, they submitted nearly 160 proposals to federal agencies, which remain a primary source for research funds.

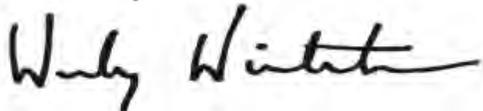
External sources recognize innovation. In fiscal year 2010, our faculty were awarded more than \$58 million in sponsored funding.

A recent shining example of success: In February, the USDA announced three major grants to study climate and agriculture. Iowa State was awarded one of the \$20 million grants, thanks to the leadership of sociology professor Lois Wright Morton and a team of 42 scientists at nine land-grant universities.

Also, John Patience, professor of animal science, received a \$5 million grant to study nutrient utilization and feed efficiency in pigs. Basil Nikolau, professor of biochemistry, biophysics and molecular biology, was awarded \$1.4 million to study metabolomics, a tool to understand plant gene function.

And Joe Cortes of the Seed Science Center was awarded one of the most competitive grants you can hope for—a Bill and Melinda Gates Foundation grant of \$1.4 million to enhance seed policies in regions of Africa.

Our faculty understand the ingredients of success. Whether it's in the classroom and lab or engaging with partners, the ingredients remain the same—long hours, dedication, a collaborative spirit and an ever-present awareness of our mission. I am grateful for their efforts, and I hope you are, too.



Wendy Wintersteen

Endowed Dean of Agriculture and Life Sciences



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BY THE NUMBERS

3,298
UNDERGRADUATES

TOP 10 EMPLOYERS OF AGRICULTURE AND LIFE SCIENCES GRADS

1. Pioneer Hi-Bred International (23)
2. U.S. Department of Agriculture (16)
- 3-4. Iowa DNR and Monsanto Company tied (9 each)
5. Iowa State University (8)
- 6-7. AgReliant Genetics and John Deere tied (7 each)
- 8-9. Ag Leader Technology and FC Coop (6 each)
10. Cargill and Dow AgroSciences/Mycogen tied (5 each)

4,001
TOTAL ENROLLMENT

98%
PLACEMENT

\$1.4 million+
IN SCHOLARSHIPS AT COLLEGE AND DEPARTMENTAL LEVELS

6 WAYS TO EARN A MASTER'S ONLINE

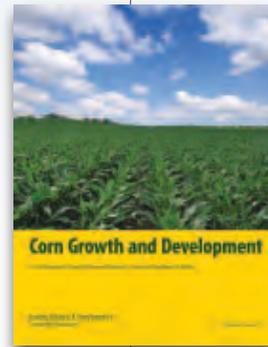
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- Agriculture
- Agricultural education
- Agronomy
- Community development
- Plant breeding
- Seed science technology and business management

24 UNDERGRADUATE MAJORS

A NEW TAKE ON AN OLD CLASSIC

ISU Extension's corn production team has completed a new publication, "Corn Growth and Development," replacing "How a Corn Plant Develops," the previous Iowa State publication that served as the standard reference on corn growth and development for more than 40 years. The first publication, written by ISU agronomists of previous eras, established the basics still used today for staging and communicating about crop development. The late John Hanway, a well-known ISU agronomist, wrote the first version in 1966, which was followed by a rewrite in 1982 by Steven Ritchie, Hanway and Garren Benson.



Authors of "Corn Growth and Development" are Lori Abendroth, ISU Extension agricultural specialist; Roger Elmore, ISU Extension corn specialist; Matthew Boyer, former ISU agronomy graduate student; and Stephanie Marlay, ISU agronomy specialist. The 2011 publication provides an in-depth look at

corn, from the moment the seed is planted all the way to maturity. It takes much of what is known about crop physiology and combines that with field agronomics to provide students, corn growers and agronomists current, relevant and technical information. To purchase a copy of the new publication or photographs visit www.ag.iastate.edu/stories.



IOWA STATE NAMED INSTITUTIONAL FACILITY OF THE YEAR

Biofuels Digest named Iowa State its pick as Institutional Research Facility of the Year. The publication cited the BioCentury Research Farm for its integrated research approach. The farm provides researchers with the opportunity to integrate harvesting, transportation, storage and processing, while offering facilities for outreach programming and industry collaboration. It is located 10 miles west of Ames at the Iowa State Agronomy and Agricultural and Biosystems Research Farm. (Read about a collaborative biomass research project underway at the farm on page 34.)

CHILDREN BORN WITH RARE MPS HAVE NEW HOPE

\$20 MILLION GRANT PUTS IOWA STATE AT THE HELM OF NATIONAL CLIMATE CHANGE RESEARCH

The U.S. Department of Agriculture's National Institute of Food and Agriculture (USDA-NIFA) has awarded a \$20 million grant to Iowa State University for regional research on keeping Midwest cornfields resilient in the face of future climate uncertainties. Iowa State researchers will coordinate a team of 42 scientists from 10 land-grant universities and two USDA Agricultural Research Service institutions to collect and analyze data over the next five years. Researchers will begin collecting data on carbon, nitrogen and water movement this spring from 21 research sites. Special equipment will be used to monitor greenhouse gas emissions at many of the sites. The team will integrate field and climate data to create models and evaluate crop management practices. "The goal is

to create a database of plot, field, farm and watershed data that can be combined with climate data to develop scenarios based on different practices," says Lois Wright Morton, Iowa State professor of sociology and project director. "Then, farmers in the region will have opportunities to participate in on-farm research and evaluate research models." The USDA-NIFA program is focused on decreasing greenhouse gas emissions and increasing carbon sequestration. The long-term national outcome is to reduce the use of energy, nitrogen and water by 10 percent and increase carbon sequestration by 15 percent through resilient agriculture and forest production systems.

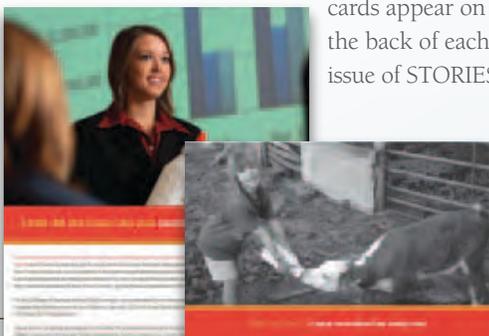


Photo: Ed Adcock

A new study offers hope for children born with a rare genetic disease, according to a paper published by the American Association for the Advancement of Science. Matthew Ellinwood, animal science, led the research focused on a disorder called mucopolysaccharidosis type I, or MPS I. The disorder is caused by the lack of a key enzyme that breaks down substances the body needs to help build normal nerves, bone, cartilage, tendons, corneas, skin and connective tissue. Ellinwood has been studying the disease for 12 years in dogs, which also suffer from the disorder. He and collaborators demonstrated that beginning replacement of the enzyme shortly after birth prevented irreversible damage caused by the disease.

CAMPAIGN TO WOO PROSPECTIVE PARENTS WINS ADDY AWARD

The Parents' Postcard Campaign coordinated by college student services and marketing, and designed by ZLR IGNITION, received a gold ADDY award from the American Advertising Federation of Des Moines in February. Judges from around the country reviewed nearly 300 creative pieces. Entries receiving a gold ADDY are automatically forwarded to the district level competition. Ads similar to the postcards appear on the back of each issue of STORIES.



LIZARD'S LOCATION LENGTHENS (OR SHORTENS) PREGNANCY

ISU researchers have found the eggs of some lizards can take a few months to hatch, while others in the same species fully develop within several weeks. Researchers in the lab of Fred Janzen, ecology, evolution and organismal biology, recently published a paper in the American Naturalist journal on their work on geographic variation in gestation of lizards and turtles. They believe environmental factors in the various regions may have led to the evolution of differing gestation periods. The published research, led by Wei-Guo Du, a visiting scientist from Hangzhou Normal University, China, and ISU postdoc Dan Warner, has made news—including a spot in the New York Times.



Photo: Rory Telemeco

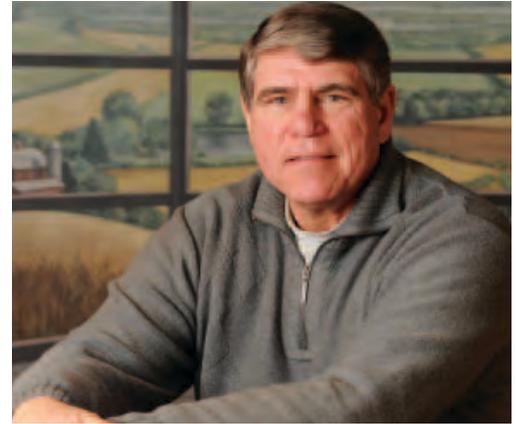


Photo: Bob Elbert

Russ Mullen helps Meaghan Bryan, a senior in agronomy, prepare for a presentation during an entrepreneurship unit of his agronomy course. Mullen continues to innovate by using new classroom technology and adapting his curriculum.

PRACTICING THE CUTTING-EDGE IN CLASSROOM INNOVATION

By Susan Thompson

Russ Mullen has seen 14,000 students move through his classrooms since he joined the agronomy faculty in 1978. Of those, 10,000 were in the introductory agronomy course, which he has been teaching for more than 30 years.

"This is the course and students that continue to motivate me the most," says Mullen. "It has given me a creative opportunity to innovate in teaching methods and improve learning tools for students."

"Emphasis is placed on individualized learning rather than large group instruction with one-on-one instruction in a learning center," he says. "Students have flexibility in structuring their learning and quizzing schedule, using a variety of tools such as computer-based video, practice learning and hands-on demonstrations."

Students also apply their learning by discussing and troubleshooting agronomic problems in weekly small group sessions.

Mullen serves on the faculty advisory panel for the Agricultural Entrepreneurship Initiative. "Many of our past innovations in

agriculture have come from independent entrepreneurs, and I worry about the loss of innovation, creativity and entrepreneurial spirit of our agricultural workforce," he says. "It was natural for me to incorporate a component that helps introduce and strengthen entrepreneurship skills."

The six-week unit covers basic principles in entrepreneurship and a team competition in which students develop an agricultural idea for a business and present their plans. The unit was patterned after "The Thinker" program Mullen added in 1998.

"Students are given technical problems with ethical and environmental ramifications and allowed to discuss them in small groups during the thinker exercise. Later, the questions and answers are discussed by the entire group," Mullen says. "The idea is to encourage students to develop and appreciate broader issues associated with technical solutions."

Mullen also teaches several other courses, and advises nearly 30 students each year. He was honored in 2010 as

the College of Agriculture and Life Sciences Adviser of the Year, plus received the ISU Award for Academic Advising Impact. He received the college's Outstanding Teacher Award in 1998.

About 200 students have joined Mullen on 11 international trips. This year, he led 27 students on a two-week, winter break travel course through Panama to learn about tropical agriculture.

Mullen conducts research on the effects of environmental and biological stresses on seed quality, primarily soybean. And while he is proud of his research successes, it's clear his first love is students.

"I've always believed the greatest overall, long-term impact I could make as a faculty member would be to teach and advise well," Mullen says. "Education is the primary method of societal improvement. Teaching provides an exciting and challenging environment for growth of both the teacher and learner." 

Extension plant pathologist Alison Robertson is a “plant doctor” who helps farmers diagnose and manage crop diseases.

Photo: Brent Pringritz

THE DOCTOR IS IN By Brian Meyer

GROWERS' QUESTIONS SHAPE EXTENSION PLANT PATHOLOGIST'S RESEARCH

A PERFECT DAY FOR ALISON ROBERTSON WOULD HAVE HER STANDING IN A CORN OR SOYBEAN FIELD UNDER A SCORCHING SUN, SWIMMING IN HIGH HUMIDITY AND TAKING QUESTIONS FROM FARMERS.

“I love those summer months,” says Robertson, an assistant professor of plant pathology with research and extension responsibilities in field crop diseases. “I’ll take those days over any other.”

She listens carefully to questions posed by corn and soybean growers. Many times they are seeds that germinate into new research.

Take white mold.

“2009 was a bad year for the disease. In 2011, many growers will return to those hard-hit fields,” says Robertson. “The Iowa Soybean Association recently funded a proposal of ours to research ways to improve white mold management. A lot of the ideas in our proposal came from growers, including evaluating the effectiveness of a biological control and of spraying fungicides.”

Another good example resulted from hailstorms that shredded corn fields in

2009. “We got a lot of questions about ear rots and mycotoxins,” she says. “As a result, we studied how hail affects grain quality and disease, which was recently published.”

Sometimes she feels like a jack of all trades, depending on what diseases are rearing their heads. Each growing season is completely different, which makes Robertson’s job challenging. Her current hit list includes anthracnose, sudden death syndrome, *Phytophthora* root rot and Goss’s wilt.

A common thread through her work is providing better management information to growers. For her, it’s rewarding, especially when she’s working closely with farmers and agronomists.

“The best part is teaching people how to diagnose the different diseases and talking about the management tactics available. I listen to growers who tell me how they’ve managed disease problems over the years. We share ideas. I’ve had people tell me something they learned really helped them and saved them thousands of dollars. That’s the best.”

A majority of today’s plant pathologists work at the genetic and molecular levels to

better understand pathogen-crop interactions. As a plant pathologist in Iowa, where about 23 million acres of beans and corn are grown each year, Robertson says her applied research is just as critically important.

“At the end of the day, growers are the most important people to me,” she says. “I want to help them grow the healthiest, best quality, highest yielding crops they can.”

Robertson does conduct some basic research. One of her Ph.D. students modified a way to evaluate soybean lines for multigene resistance to *Phytophthora* root rot, making it easier and more objective. They’re using the method to screen plants and look for new areas of potential resistance.

Besides farmers’ questions, she also gets asked about her work by people who haven’t a clue what a plant pathologist does.

“I simply tell them I’m a plant doctor,” Robertson says. “I tell them sick plants can affect productivity, which can impact our food supply in many ways. My job is to help plants stay healthy.” 



Photo: Bob Eibert

CHANGING LIVES BY TAKING CHANCES

KIMLE BRINGS THE INTENSITY, ENTHUSIASM
OF ENTREPRENEURSHIP TO THE CLASSROOM

By Melea Reicks Licht

Kevin Kimle knew he was taking a leap of faith.

He had a great job working for Pioneer Hi-Bred International in business development. He negotiated deals and performed market analyses. In doing so he used one of the first web browsers ever created to read reports from the U.S. Department of Agriculture.

Kimle ('91 economics) began thinking: This technology has enormous potential to serve the agriculture industry at large. He knew he could make it happen. He understood it was a leap of faith, but he had faith in his idea, his abilities and the people he would gather around him.

"A light bulb went off about the power of creating software to create efficiencies in how agriculture worked. It was a cost-effective way to move and share information between buyers and sellers. My friend, Dave Krog, and I had fresh ideas on how that could play out," Kimle says.

Kimle and Krog ('80 agronomy, MS '82 economics, PhD '88 economics) left Pioneer to build the business that would become E-Markets. The Internet-based electronic commerce system was the first of its kind in agriculture and food industry. Following the success of E-Markets, Kimle launched Decision Commodities, a company that provided risk management

tools similar to mutual funds for grain producers.

"Kevin was always thinking of unique ways to address problems in our industry, and he gave me the entrepreneurial fever as well," Krog says. "He had a vision that the Internet could bring significant value to agriculture and in particular bring efficiencies and scalabilities to identity-preserved grain production and contracting. Kevin was very confident and had a passion for the vision and what we were doing. It was a lot of fun to work with Kevin and build a business from scratch."

It was this type of vision and initiative that made Kimle a stand out choice for the

Kevin Kimle draws on his experience with startups including his own, E-markets, when teaching students about entrepreneurship.

Bruce Rastetter Chair in Entrepreneurship in the College of Agriculture and Life Sciences, which he filled in 2009.

Rastetter, an Iowa agricultural entrepreneur who created Heartland Pork and Hawkeye Renewables, endowed the position as a way to infuse entrepreneurship into the university experience.

“I gave the gift with the goal of having a chair that taught classes on entrepreneurship, but more importantly that would get students excited about entrepreneurship, about why it’s important and the opportunities it provides. Kevin reflects that. You can see it in his students and when you sit in on his classes or visit with him,” Rastetter says. “The challenge is continuing to grow when you have success. Kevin is asking people to participate in offering internships and scholarships, collaborating with partners on campus and continuing to raise private and public funds to support their efforts.”

Kimle says he loves the challenge of grooming future entrepreneurs at ISU.

“They took a chance on me,” Kimle admits. “There’s a difference between real-world experience and creating academic experiences. At its core, this is an enterprise-building job. But aspects are different than any other job I’ve had.”

Kimle got his first taste of running a business as a teenager when his dad turned over his family’s hog operation to him on their diversified farm in Nebraska. His degree in agricultural business from the University of Nebraska and a series of internships with small startups helped him graduate from “shovel mechanic” to entrepreneur.

He also worked a stint for Senator Dave Karnes in Washington, D.C., before he earned his master’s in economics from Iowa State under the direction of Marvin Hayenga, whom Kimle still considers a trusted adviser.

From teaching courses to one-on-one student consultations, Kimle’s job description is packed. A few items from his to-do list include:

- Advise students through idea creation and business planning.
- Connect students with mentors and resources.
- Build outreach opportunities to foster entrepreneurship with alumni and professionals.
- Design and lead international entrepreneurship experiences.
- Teach introduction to agricultural marketing and entrepreneurship in agriculture courses.

But he says it all comes down to one guiding principle—changing people’s lives for the better.

“It’s about creating dialogue in the right place at the right time. We can talk technology or building companies, but it is about people changing peoples’ lives in a lot of different ways, whether it be professors, professionals or students,” Kimle says. **S**

ONLINE EXTRAS: www.ag.iastate.edu/stories

What makes a Hawkeye invest in Cyclones?

Learn more about entrepreneur Bruce Rastetter, member of the Iowa Board of Regents and University of Iowa alum that endowed Kimle’s position.



Photo: ISU Foundation

KEVIN KIMLE DOESN'T MINCE WORDS

Kimle uses a merit point system to evaluate his students like most professors. But, he takes it a step farther by offering this “interpretation” of students’ final letter grades.

- (A)** Your work is fantastic. I’m energized by your words, ideas and actions. You took this assignment seriously, exceeded expectations and exhibited great effort and insight. I would be proud to show this work to others.
- (B)** Solid work, but it lacks sizzle. Your work was diligent according to the assignment and standards and was completed on time. Some parts of the work lacked completeness or thorough attention to detail.
- (C)** I’m getting a little bored reading your assignment or listening to your presentation. Parts of the assignment were missing, incomplete and lacking careful attention. Clearly, this could have used more effort and caring.
- (D)** I’m agitated that you wasted my time. There are major missing pieces in the assignment, and it’s difficult to detect much concern on your part about your work.
- (F)** Ugh. You’re wasting my time and yours. You just plain did not try.



SEEING STUDENTS THROUGH PARENTS' EYES

By Ed Adcock

Barb Osborn sees a little of her children in each student she advises.

Osborn says helping her children cope with transferring to Iowa State made her a better adviser for the horticulture department.

She's the department's head adviser, assigning students to advisers based on their commodity interests, such as turfgrass or fruit crops. But she keeps students who might not know what area they are interested in.

"I take a lot of the transfer students too, because I really enjoy looking at their transcripts to figure out how to best utilize their courses for a degree," Osborn says.

Three of Osborn's children are Iowa Staters. Her oldest daughter graduated with a food science degree, her second oldest daughter is a senior in the College of Human Sciences and her older son will transfer to horticulture's turfgrass management program this fall. All went to community colleges and she helped them plan their courses to get needed credits.

In a way, Osborn becomes part of each advisee's extended family.

"It is not uncommon for me to have a phone call from a parent at 10 o'clock at night or an email for no other reason than to check in or to say, 'Hi,'" she says. "Developing a rapport with them makes me a better adviser because I understand where the student comes from."

Jeff Iles, horticulture department chair, says Osborn's "ability to assist students

and calm the fears of nervous parents is legendary." Her abilities have garnered her the recognition of her peers. She won college awards for learning community coordination in 2009, student recruitment and retention in 2006 and outstanding advising in 2005. She was awarded the University Award for Academic Advising Impact in 2010.

Students frequently hang out in her office.

"Some have likened Barb to the kindly camp counselor, dispensing equal amounts of guidance and support, and when necessary, a dash of tough love," Iles says.

Osborn's parents got her involved in horticulture. Helping them garden gave way to working at a golf course in high school. Turfgrass and landscaping are still her personal interests.

She earned a bachelor's degree in agricultural education from Iowa State in 1983. Osborn applied her training to restore the vocational agriculture program at Dexfield High, using horticulture to attract urban students. After earning a master's degree in 1988 in ag education she taught commercial horticulture at Des Moines Area Community College before taking her present position in 1998.

Besides advising, Osborn teaches an orientation course in which seeking employment is a key component. She sounds like a doting parent describing her goals for students.

"I want to see our students in a better place when they leave than when they come in, and by that I want them to be employed," Osborn says. 



Photo: Bob Elbert

Barb Osborn (right) is the horticulture department's award-winning student adviser. Helping members of the horticulture club with a fundraiser is just one of many ways she earns accolades for supporting students and their families.

"Some have likened Barb to the kindly camp counselor, dispensing equal amounts of guidance and support, and when necessary, a dash of tough love."

CHANGING DIRECTIONS

By Susan Thompson

WELL-KNOWN ECONOMIST SEES IOWA AG THROUGH CRISIS TO NEW OPPORTUNITIES

In his 32 years at Iowa State, Robert Jolly had several job titles and a wide array of duties. “One of the things I always appreciated was being able to change direction without leaving town,” he jokes.

Jolly’s most recent direction at Iowa State was leading the Agricultural Entrepreneurship Initiative.

“Dean Woteki asked me and Steve Nissan to put some wheels under the initiative,” Jolly says. “We started with a multi-pronged approach, working with faculty and students, developing educational materials and building entrepreneurship into the curriculum and activities.”

That was in 2005. It wasn’t long before Jolly realized he was in familiar territory.

“People sometimes think it’s puzzling professors get involved in entrepreneurship. But if you look at what we do, we look for opportunities, find money, develop programs and fill needs. Those are entrepreneurial activities,” he says.

Jolly was hired by Iowa State in 1979 as an extension economist, but soon added research and teaching to his responsibilities. In 1985, an administrative position came his way.

“Dean Kolmer asked me to move into an assistant dean position. At the time, I

was very involved in developing programs to help farmers, lenders and communities survive the farm crisis. I agreed to a part-time position to look at strategic issues the Experiment Station was facing, since state funding for agricultural research had languished.”

There was a strong sense Iowa didn’t want to go through another farm crisis, and Jolly saw that as a good opportunity to increase funding for agricultural research.

He and others developed a legislative proposal to double the state’s appropriation for agricultural research, and garnered enough political support that the proposal was approved. For Jolly that success was a “career highlight.”

International work was another important part of Jolly’s Iowa State career. As Eastern Europe began to collapse, he worked on projects in the former Soviet Union, followed by more recent efforts in China and India.

“When I look back at the things that were the most rewarding, it was usually pulling together people and money to work on a project. I have always gotten the greatest satisfaction taking the university to the people.”

Now international activities occupy some of Jolly’s retirement days. He works part-time for an Irish dairy and beef nutrition company he describes as “a second generation entrepreneurial business, using wonderfully innovative technology.”

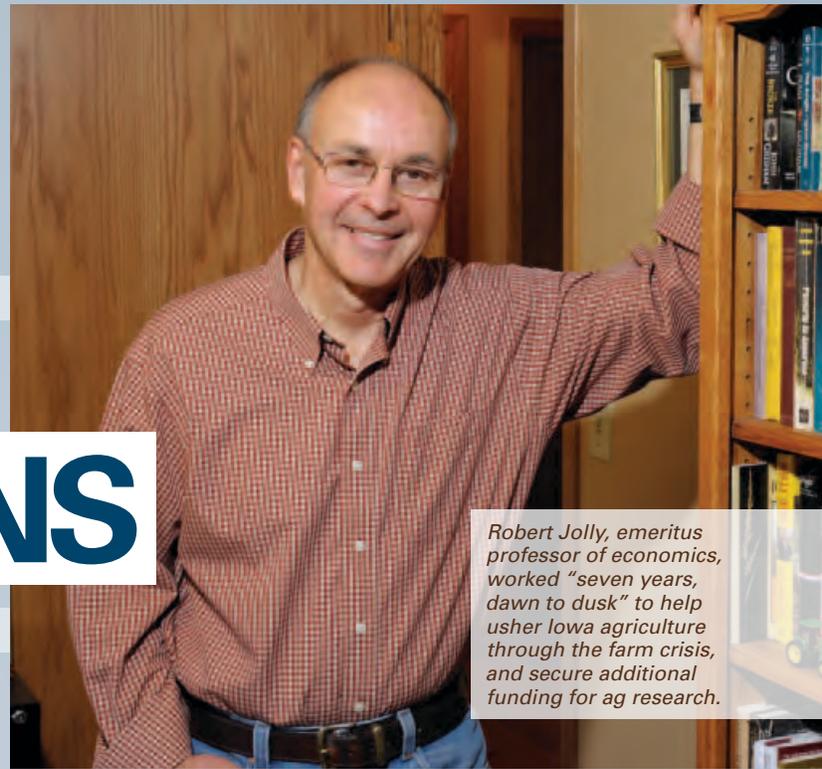
He also is involved with a startup non-governmental organization based in Chicago that provides financing and technical assistance to firms in dairy supply chains.

“The idea is to help farmers in developing countries grow their farm businesses and cooperatives while providing an acceptable

rate of return for investors,” he says.

These international efforts follow the same pattern Jolly exhibited during his time at Iowa State.

“When I look back at the things that were the most rewarding, it was usually pulling together people and money to work on a project,” he says. “I have always gotten the greatest satisfaction taking the university to the people.” ■



Robert Jolly, emeritus professor of economics, worked “seven years, dawn to dusk” to help usher Iowa agriculture through the farm crisis, and secure additional funding for ag research.

Photo: Bob Elbert

KLING APPOINTED TO INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE BOARD

Catherine Kling, professor of economics, began serving a three-year term in January on the Board of Trustees of the International Food

Policy Research Institute. IFPRI is an international agricultural research organization headquartered in Washington, D.C., with a mission of providing policy solutions that reduce poverty and end hunger and malnutrition worldwide.



Photo: Bob Elbert

HONEYMAN ADDS NEW DUTIES WITH BIOCENTURY FARM, LEOPOLD CENTER

Mark Honeyman, professor of animal science and coordinator of ISU Research and Demonstration Farms, has been named associate director of the BioCentury Research Farm where he will integrate biomass field research within the farm's operations and help ensure compatibility of the farm's activities with other ISU research farms. Honeyman also has assumed responsibilities of interim director of the Leopold Center for Sustainable Agriculture. Former interim director **Lois Wright Morton**, sociology, stepped down to lead a regional research project on climate and agriculture. Honeyman has coordinated ISU's Research and Demonstration Farms network for 26 years. He served on the original task force that helped define the Leopold Center in the 1980s.



HEARTY HELLOS

Nick Dolce joined the college development office as a director of development. Dolce comes from the University of Illinois at Springfield where he was associate director of development and assistant athletic director for development.

Joe Hannan was named the ISU Extension commercial horticulture specialist for central and western Iowa. Hannan, who is housed in the Dallas County Extension office, is responsible for providing commercial growers with educational resources and will conduct research at the Iowa State Horticulture Farm near Gilbert and the Armstrong Research Farm near Lewis.

FOND FAREWELLS

Rich Bundy, vice president of development at the ISU Foundation and former college development team leader, accepted a leadership position at the University of Vermont as vice president of development and alumni relations and CEO of the University of Vermont Foundation.

Rich Pirog, associate director of the Leopold Center for Sustainable Agriculture, became senior associate director of the Center for Sustainable Food Systems at Michigan State University in May. He will lead the new center's efforts in the socioeconomic aspects of food systems, including production, marketing and economic development.

Les Lewis, chair of the entomology department, retired in December. He had served as chair since 2008. Prior to that he was a research leader and scientist with the USDA Agricultural Research Service.

FACULTY NAMED FELLOWS OF NATIONAL SOCIETIES

- **Maynard Hogberg**, animal science, chair and professor, American Society of Animal Science
- **Bryony Bonning**, entomology professor, American Association for the Advancement of Science
- **Steven Fales**, agronomy professor, American Association for the Advancement of Science
- **Patrick Schnable**, agronomy professor, American Association for the Advancement of Science
- **Jonathan Wendel**, ecology, evolution and organismal biology chair and professor, American Association for the Advancement of Science



Photo: Bob Elbert

FEHR HONORED BY AMERICAN SOYBEAN ASSOCIATION

Charles F. Distinguished Professor of Agronomy **Walt Fehr** is the recipient

of the 2011 American Soybean Association Special Meritorious Service Award. Fehr was recognized for his "innovative plant breeding program utilizing traditional

plant breeding methods along with biotechnology to enhance the genetic traits of soybeans." Fehr's research has produced more than 200 food grade soybean varieties grown throughout the United States, and he was the first to develop heart-healthy soybeans free of trans fat.



Contributed Photo

KENEALY RECEIVES INTERNATIONAL ANIMAL AGRICULTURE AWARD

Douglas Kenealy, the Harman Professor for Excellence in Teaching and Learning in the Department of Animal Science, received the Bouffault International Animal Agriculture Award from the American Society of Animal Science. Kenealy has led five international travel courses and mentored students from 11 countries on ISU exchange programs. Kenealy is a University Professor, professor-in-charge of the dairy science curriculum and section leader for animal science instruction. He is shown at right (in red) planting trees with ISU students while visiting Trakia University in Stara Zagora, Bulgaria.

"It's not work to me. All my life I've spent the day doing something else and then I got to go home and farm. It's a way of life and it's what I love to do."

THE BUCK By Barbara McBreen WON'T STOP HERE



Photo: Barbara McBreen

Alle Buck, center top, is the third generation of her family to pursue an agriculture degree at Iowa State. Her parents, Roger ('75 farm operations) and Nylene, and her grandparents, Don ('49 farm operations) and Ruth recently restored their 120-year-old barn listed on the Iowa Barn Foundation All-State Barn Tour.

THIRD GENERATION IOWA STATER WILL CARRY ON FAMILY FARM'S PRICELESS TRADITION

In 1894, Alle Buck's great, great grandfather got off the train near Rhodes, Iowa and bought a farm with his brother. Today, Buck calls it home.

"We've farmed this land for over 100 years and it's in my blood," says Buck, a senior in animal science.

Buck is proud of her fifth-generation farm and even more proud that she's a third-generation Iowa State student in the College of Agriculture and Life Sciences. Her grandfather and grandmother met at Iowa State and together they raised six children who all attended Iowa State, but she's the first woman to pursue a career in agriculture.

"My three uncles and my dad majored in agriculture," Buck says. "It wasn't easy for women to pursue degrees in agriculture back then, like it is now."

After graduation this summer, Buck plans to build and run a swine finishing facility with her brother-in-law. Raising livestock has taught her about life. The key, she says, is putting their needs first.

"If you take care of them, they'll take care of you," Buck says.

She knows farming isn't an easy business to get into, but it's what she'd like to pursue. The Agricultural Entrepreneurship Initiative helped Buck understand the importance of global markets, creative thinking and innovation. The initiative also helped her

apply for a Beginning Farmer Loan to rent grazing pasture for her cattle.

"It's not work to me," Buck says. "All my life I've spent the day doing something else and then I got to go home and farm. It's a way of life and it's what I love to do."

Her sense of community is evident. Walking across campus, she greets

several students she's worked with in clubs, learning communities and judging teams.

She's also a known volunteer. She has dedicated a lot of time to the Block and Bridle club, and this spring she served on the college's strategic planning committee. She felt strongly about providing input, especially from the student's perspective.

"I really care about Iowa State and I have a vested interest in its future," Buck says.

Coming to Iowa State opened doors for Buck. She credits the learning community experience for connecting her with life-long friends. Last summer she traveled to Greece with the entrepreneurship group and also visited Rome, Paris, London, Frankfurt and Munich.

"I've traveled to 15 states and five countries and I'd never been on an airplane before I came to college," Buck says.

Buck says she's found her college experience rewarding because she's developed leadership and organizational skills, met with agricultural leaders and gathered a community of friends. It's an experience and a community that she calls, "priceless." ■

Recent grad Alle Buck took out a Beginning Farmer Loan to rent grazing area to raise cattle. She's also working with a business partner to build a swine finishing facility.



Photo: Barbara McBreen

SUSTAINING MEMORIES, NOURISHING THE FUTURE

By Barbara McBreen

Mixing, kneading and smelling the aroma of baking bread in the farm home where she grew up is a special memory for Krista McCarty.

It's how she remembers her mom, who died of cancer when McCarty was just 11 years old.

"We would spend Saturday mornings baking bread, just the two of us," McCarty says.

In part, those memories inspired McCarty, a senior, to pursue a major in food science. She thought about becoming a nurse, but discovered food science after taking a tour of General Mills when she was 13 years old.

She's continued her focus on grains into her college career. This spring McCarty and the Iowa State University Food Product Development Team entered a gluten-free item into a national product development competition to be held in June.

McCarty came up with the idea, which must be kept top secret until after the competition, after taking a gluten-free cooking class. She says people with Celiac disease, also known as gluten intolerance, don't have as many choices in the marketplace so products like this could have a competitive advantage.

"Our challenge is finding the right formula of flours and leavening agents to replicate the properties of gluten," McCarty says.

Last fall, she and another product development team took a probiotic gum product to the American Association of Cereal Chemists competition. The team took fourth place in the final round and gained the interest of several companies. The gum was developed with a corn zein, a protein found in maize, which is environmentally friendly and promotes oral health.

"I love going to the grocery store to find the latest products," says McCarty. "I can't resist buying those products because I want to know what's in them."

She monitors the latest twitters on new food products, intellectual property, recalls and industry news. To satisfy her insatiable appetite to understand food product development, she's planning to attend graduate school.

Next year McCarty will serve as co-president of the Iowa State University Colleges Against Cancer Organization. This year she led the advocacy and education committee for the Relay For Life in March. McCarty worked on displays for the event and one display included a paragraph from committee members about why they participate. McCarty posted this:

"I Relay for my mom. She passed away from her three and a half year battle with cancer when I was 11. I Relay for all children, so they may never experience the loss of a parent to cancer. I Relay for all families who must go through the fight of having a family member with cancer. I support the fight against cancer because I do not want anyone to go through the struggle of being told, 'You have cancer.' I Relay to encourage everyone to have hope because one day we will find a cure!" 

Krista McCarty learned to love baking at an early age, making bread each Saturday with her mom. McCarty honors her mother's memory through her service in the ISU Colleges Against Cancer organization while she pursues a major in food science.



Photo: Bob Elbert

TAKING ON THE BUSINESS OF FARMING

By Barbara McBreen

Even though he's managing a farm two hours away from Ames while tackling a full class schedule, Andy Edson doesn't see himself as an entrepreneur. He says it's how you approach business that defines entrepreneur.

"Some people think that anyone who starts a business is an entrepreneur," says Edson, a junior in agricultural business. "An entrepreneur is someone who is innovative and tries to do things differently."

Edson, who is part of the fifth generation to grow up on his family farm, plans to partner with his dad and perhaps run the operation in the future. It's a transition they have slowly begun. Edson started farming 14 acres three years ago on their farm near Nashua, Iowa. In 2009, a neighbor asked him to farm another 600 acres.

"Paying rent and writing bigger checks was a new experience, but that's how I learn," Edson says.

Variable rate planting, auto-steer and field mapping analysis are just a few of the technologies Edson hopes to set up on his family's farm in the future.

"There's a lot of room to grow with technology and that's what I'm hoping to bring to the operation," Edson says.

This year Edson attended the Beginning Farmer's Conference where he learned about the Ag Decision Maker program. It offers numerous decision-making tools

to help calculate cost, returns, markets, outlooks and prices. He says the conference is just one of many resources offered at Iowa State.

"It gives you the tools to evaluate the most profitable options," Edson says.

Although he's had to cut back on club activities, he's continued to stay active in the National Agri-marketing Association. In April, the team attended the national competition in Kansas City and presented a marketing plan for a sub-clinical mastitis treatment. Edson says the product doesn't contain antibiotics, so dairy producers wouldn't have to dispose of milk after applying the product.

Edson also gained marketing experience during his summer internship at Insta-Pro International. The company sells oilseed processing and dry extruder equipment throughout the world.

"I collected data on existing markets and investigated possible ways they could expand their markets," Edson says.

Edson's story isn't typical. Less than 15 percent of the college's graduates plan to go into production farming. For students who want to farm, the Beginning Farmers



Photo: Suzanne Edson

Andy Edson is always looking for ways to take his farming operation to new heights. The junior in agricultural business farms 600 acres near Nashua, Iowa, while taking a full class load.

Network student club offers resources and opportunities to meet with farmers and experts.

"There is a lot of interest in the student club," says Mike Duffy, economics professor, director of the Beginning Farmer Center and club adviser.

More than 50 percent of Iowa's farmers are over age 55. Duffy says resources like the Beginning Farmer Center and the student club are important because they can help retiring farmers connect with students like Edson and others who want to farm. ■

“When you put on Cy’s costume, it transforms you. It’s hard to describe, but you instantly perform.”



TRYING CY ON FOR SIZE

By Barbara McBreen

JUNIOR IN AG BUSINESS FINDS A PERFECT FIT

Cy isn't shy. Cy dances, hugs and throws high-fives to enthuse and entertain Iowa State University fans.

Matt Burt, a junior in agricultural business, has been watching Cy all his life. His parents and older brother went to Iowa State, and he grew up attending Iowa State games.

Burt always knew he would be a Cyclone. He never guessed he would be Cy.

Last year he went to the mascot squad tryout so he could try on Cy's suit just

once before he graduated and say he'd been Cy for 15 minutes. After attending a meeting before try-outs he decided to take the challenge and compete.

“They gave us directions on how to plan a five minute skit,” Burt says. “It was very competitive.”

Along with running with the Iowa State flag and performing the Cy strut, Burt and his friends put together a winning skit. They had Cy working out to the theme song from the Rocky movie; challenging



Photo: Steve Pope

rival fans to arm wrestle, a tug of war, a race; and finally beating a University of Iowa fan in football.

After making the elite team of seven students, his first performance was a two-day tour promoting Iowa State with the athletic department's coaches and administrators. Traveling in a first-class tour bus around the state, Burt says, "was amazingly cool."

Cy the Cardinal, which is the mascot's official name, first hit the field at a 1954 Iowa State homecoming game. Cy was the winning idea in a nationwide contest to find a mascot to fit the "Cyclone" role. Cy performs at every Cyclone sporting event and several off-campus special events.

Mascot squad members don't get paid or receive special recognition, says Mary Pink, Iowa State University associate athletics director for marketing. She appreciates

volunteers like Burt whose dedication and enthusiasm make Cy shine.

Squad leader Noelle Lichty, a senior in marketing, also appreciates Burt's performances.

"I can always tell when Matt is in the Cy suit because he interacts with fans and he is always entertaining," Lichty says.

Once students qualify to perform as Cy they are eligible to keep the position until graduation, which means Burt will perform the Cy dance until he graduates in 2012. He says he was looking forward to attending the games, but was surprised how different it feels to be on the field and part of the game.

"It's fun and you feel more involved in Iowa State athletics as the mascot," Burt says. "I traveled to the Kansas State football game and I thought it was amazing walking into Arrowhead Stadium."

Burt's most memorable moment, "crowd surfing," Burt says. "My friends picked me up and I was passed halfway up the student section."

Burt has tried to do the Cy dance for friends without the costume, but it just isn't the same.

"When you put on Cy's costume, it transforms you. It's hard to describe, but you instantly perform," Burt says.

Burt has also put his dance moves to work for a good cause. He was part of the Alpha Gamma Rho team during the ISU Dance Marathon held in January to raise money for the Children's Miracle Network and the University of Iowa Children's Hospital. The event raised more than \$260,000 for the charities.

"It was special to hear the kids' stories and how the money is helping their families," Burt says.

Although he's never auditioned for any other role, he has had experience

in showmanship. The Marshalltown native was raised on a farrow-to-finish and row-crop farm and has shown livestock at the Tama County Fair and the Iowa State Fair.

Burt plans to pursue a career in agriculture and hopes to go into farming someday. He's had an internship as an Agri-Gold sales representative and as a crop scout. After he graduates he'd like to get experience in banking, lending or commodity trading.

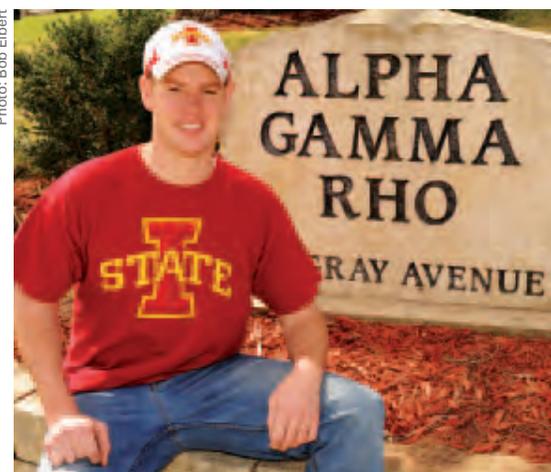
"I chose agricultural business because there are so many things you can do with it," Burt says.

For now, he'll continue to turn anytime he hears a call for Cy. He's always ready to suit up as the Cyclone hero to strut, dance, offer high-fives and even crowd surf. 📷

ONLINE EXTRAS: www.ag.iastate.edu/stories

Check out more photos of Burt strutting his Cy Stuff.

Photo: Bob Elbert



When Matt Burt, a member of Alpha Gamma Rho, isn't suited up as Cy he is involved in Greek Week and ISU Dance Marathon raising money for children's charities.



Photo: Brenna Wetzler

FOOD PANTRY FOR STUDENTS, BY STUDENTS OPENS ITS DOORS

As part of a class assignment, students in the Department of Food Science and Human Nutrition Transfer and Major Change Learning Community were asked to think about ways to help support food assistance needs in the community. The result was planning an on-campus food pantry. The SHOP (Students Helping Our Peers) opened in February in the Food Sciences Building. Pictured are the organization's officers (front to back) **Andrew Pugh, Sarah Schwanebeck, Hailey Boudreau, Melissa Van Norden, Kelsey Webb, Kara Moss, Amanda Haffarnan and Tania Lee.** The opening of the SHOP garnered national television coverage and a spot in an Inside Higher Ed article. Watch the video and read more about the SHOP at www.ag.iastate.edu/stories.

STUDENT JUDGING TEAMS RANK HIGH

- **Turf Club**, first place, Collegiate Turf Bowl Competition Golf Course Superintendents Association of America (ninth win in 10 years)
- **Intercollegiate Dairy Judging Team**, first place, Accelerated Genetics Intercollegiate Dairy Judging Contest
- **Livestock Judging Team**, high team overall Northern Lights Contest, high team honors Sioux Empire Farm Show, and second high team overall at Aksarben
- **Crops Judging Team**, first place Ag Knowledge Bowl, second place Crops Contest North American Colleges and Teachers of Agriculture
- **Soil Judging Team**, first place, American Society of Agronomy Region 5 Collegiate Soil Judging Contest
- **Dairy Products Evaluation Team**, second in team all-product at the 89th National Collegiate Dairy Products Evaluation Contest
- **Food Product Development Team**, fourth in the American Association of Cereal Chemists product development contest

AG AND LIFE SCIENCES MAN AND WOMAN OF THE YEAR

Elizabeth Baudler, senior in animal science, and **Jacob Hunter**, senior in agricultural and life sciences education, were named the 2011 College of Agriculture and Life Sciences Ag Woman and Ag Man of the Year as part of the Ag Day celebration in March. Awardees are selected by their peers on the college student council based on "recognizing a true ambassador of agriculture that positively promotes agriculture through college clubs and industry relations and shows a passion for the agricultural and life sciences industry."



Photo: Barbara McBreen



Photo: ISU Daily

HAIL TO THE CHIEF

Dakota Hoben (left), senior in agricultural business, was elected president of the Government of the Student Body in March. He and Vice President **Jared Knight**, junior in political science, won the executive slate with a platform focused on "The Three 'Cs': clubs, classroom and community."

LEGACY OF **ENTREPRENEURSHIP**

“Our agriculture and life sciences alumni have begun an entrepreneurial tradition at Iowa State University. Twenty percent of our alumni have started for-profit businesses. Part of our challenge and opportunity is instilling that tradition in students by connecting them with alumni and one other.”

—Kevin Kimle, Director, Agricultural Entrepreneurship Initiative

A recent survey of Iowa State University alumni who graduated between 1986-2006 proves the tradition exists.

- 16 percent of ISU grads started at least one business
- Most common: Firms serving agricultural markets followed by retail and information technology.
- Undergraduates from the College of Agriculture and Life Sciences and the College of Design had the highest entrepreneurship rates
- The entrepreneurship rate among Iowa State University graduates is more than double the rate of the general population
- On average, alumni founded their first business 10 years after graduating
- Nearly 79 percent of all businesses were still in operation (this is a much higher survival rate than the national average of 31 percent)
- On average, entrepreneurs and former entrepreneurs earn more than their non-entrepreneur counterparts
- Nearly 20,000 businesses were created (223,000 jobs). About 72 percent established in Iowa or Midwest.
- These companies had 2007 revenues of \$64 billion **S**

FARMER ENTREPRENEURS IMPROVE COMMUNITY VITALITY

A substantial number of Iowa farm families start and operate businesses in addition to their regular farming operations, according to an ISU Extension study conducted in 2007. From equipment repair and construction to seed sales and financial services, farmers were finding numerous ways to increase their income and improve their community’s social and economic vitality. Responses from 144 farmer entrepreneurs who participated in the 2007 Iowa Farm and Rural Life Poll show more than half of their businesses had been in operation for more than 20 years, and 25 percent of the businesses were



construction or retail companies. The farmer entrepreneurs reported their businesses provided 369 full-time and 201 part-time jobs in their communities. About one-third of the proprietors were interested in growing their businesses to have an impact locally, statewide or nationally. **S**

LICENSING **POWERHOUSE**

Agriculture and life sciences play a central role in Iowa State University’s reputation for moving research discoveries into the marketplace.

In 2007, a national report on technology transfer called Iowa State a “licensing powerhouse”

and a model of economic development activity. A key reason: ISU’s long-established service to agriculture and other industries through extension, outreach and research partnerships that resulted in personal, trusted relationships.

Those diverse relationships pay off. The ISU Research Foundation maintains a portfolio of 482 active license and option agreements—two-thirds are plant germplasm and most are products of

soybean breeding. In fiscal year 2010, the top licensed technologies for discoveries in agriculture and life sciences included:

- A sweet, disease-resistant watermelon variety
- A natural pre-emergence weed control for lawns and gardens
- A method to increase and maintain muscle mass in humans
- A precise fertilizer application system, the Impellicone, that reduces anhydrous ammonia used on crops
- Genes and genetic markers for improved reproductive traits in animals

In fiscal year 2010, agriculture and life sciences faculty were issued six patents and filed five others, for

technologies that included:

- A genetic test to identify dwarfism in cattle
- Alternatives to antibiotics in animals
- Genes to protect soybeans from disease caused by Phytophthora
- Genetic traits to improve pork tenderness
- Mobile RNA signals to enhance plant growth and development

Since 2003, 42 percent of all Iowa State University patents (81) have been issued for discoveries in biotechnology, life sciences and agriculture. **S**



Impellicone



Q&A

Q: I'VE GOT GREAT IDEAS AND PASSION. NOW WHAT?

A: LISTEN TO ALUMNI ENTREPRENEURS TELL WHAT HELPED PAVE THEIR WAY TO SUCCESS.

Do you believe there's something inherent about agriculture or life sciences that (pardon the express) provides a rich soil for growing entrepreneurs?

Roger Underwood: Absolutely! Agriculture and life sciences are changing rapidly due to the many “input” advancements in seed (genetics), equipment and services and “output” advances such as food, energy and feed utilization. In all of these changes there is unending opportunity for entrepreneurs to create new value. Entrepreneurs thrive when any market is changing rapidly so the ag and life sciences markets are ripe for entrepreneurship.

Charles Sukup: There really is something with agriculture and the people in it that see the day-in and day-out risk that contributes to an entrepreneurial attitude. Farming is being independent and being an entrepreneur. You're in control of many things, but in the big picture you're not in control of weather, government programs or markets. You have to focus on what you can control. That is a good analogy for all sorts of entrepreneurs.

What's the best decision you made as a college student at Iowa State that influenced your life as an entrepreneur?

J. Lyell Clarke: One was my decision to get a graduate degree and working for Wayne Rowley, professor of entomology, who became a very good friend of mine. If I hadn't gone to grad school I'm not sure I'd be where I am now. I wouldn't have the appreciation for the research and development and technology that we've made part of our company.

Murray Wise: There used to be a weekly, required noncredit class called Agriculture 100 that brought in successful ag professionals that had a major impact on me. Dwane Sandage's (of the Sandage farmland management companies) presentation was so unique and so creative. It had such a strong influence on me that I ended up going to work for him three or four years after graduating. As a result I bought a portion of his company and that turned into Westchester Group, a successful asset management venture.

How important are mentors? Who was a mentor to you and what made them invaluable to you?

Clarke: I had three people that were most important. My father taught me about business and hard work. Wayne Rowley about hard work and science—it's because of Wayne that it took me until my mid-forties to realize not everyone worked on Saturdays. My father-in-law about the importance of family. Each mentor will provide a different piece of the puzzle for you, will see potential in you.

Underwood: Mentors are critical to one's success. Mentors can help smooth the rough ride when making operational decisions or thinking through the big and small decisions that will arise. Vallie Pellett, a no-nonsense local farmer, taught me the value of hard work, the basics of production agriculture and how simple decisions can be critical decisions. Paul Pellett, a fertilizer and ag chemical retailer, taught me the value of making money creatively. Paul taught me that the best money you will ever make is



John "Lyell" Clarke III (PhD '88 entomology), President and CEO, Clarke, global mosquito control and aquatic services



Charles Sukup ('76 ag engineering, M.S. '82), President, Sukup Manufacturing, grain bins and drying equipment



Roger Underwood ('80 ag business), founder and former CEO Becker Underwood, non-pesticide specialty chemical and biological products



Murray Wise ('73 plant pathology), CEO, Chairman, Westchester Group, Inc., agricultural asset management

Contributed Photos

the money you never spend. My father, Ray Underwood, taught me about the value of the customer, including sales and marketing strategies. I learned from my dad that the best idea can be worthless without loyal customers who are served properly.

How do you make the world listen to you when you know you've got a great idea?

Sukup: There is too much shouting in this world. You can't just shout louder. You need to be consistent and persevere. You need to show up and not give up. Sow the seed all over the place and a few will fall in good soil and take root and grow.

Underwood: Keep it simple. I found that I needed to be able to explain my idea in so few words that the listener needed to be able to hear my idea and explain it right back to me—otherwise it was too complicated.

Is "passion" an overrated word in the entrepreneurial world or is it still at the heart of innovation?

Wise: Passion is underrated. I firmly believe if you don't have a passion for what you're about to embark on, your probability of success will be minimized. I know very few successful people in life that don't have tremendous passion for what they do.

Clarke: Passion is not overrated—that's what it is all about. We talk about passion as a core value of our company. We are passionate about public health. Our employees will do anything if there is a major emergency. It's all hands on deck. If you're not passionate about what you're looking for in a job, if it doesn't fit your value system and you're not passionate about it, then you need to find another job or you'll be miserable.

What have you found to be the most underrated skill or resource for being entrepreneurial?

Sukup: Perseverance and contrarian thinking

Wise: Accounting

Underwood: Financial understanding, managing cash flow

Clarke: Salesmanship

What's the most inspiring thing you could say to someone who is a fledgling entrepreneur, or who may be and doesn't know it yet?

Clarke: Be prepared to work very hard. If you follow your heart and your passion, you'll find it's not hard work at all. You can't wait to go to work. Don't be afraid to ask people to mentor you. If they know you're interested in their industry, innovation or a particular market, they

will realize you are serious. Most are happy to let you tap into their knowledge.

Underwood: Don't be afraid to take a calculated leap at creating value from an idea or strategy. Always be on alert for an opportunity that needs to be exploited as a new business or new product. But when you see that window of opportunity, go through it sooner rather than later. There is always some other entrepreneur who will see the opportunity and capitalize on it.

Sukup: Keep trying. Work hard. Be honest. Be moral. You get ahead by helping others get ahead. Go for it. The worst advice is to be a risk taker. There are a lot of bad ideas out there, too, and people need to figure out what is a good idea. Successful entrepreneurs never felt like they were taking a big risk. They saw the need and had the vision.

Wise: If you are starting a new business venture you probably are underestimating the amount of capital you need. I cannot stress enough the need to be well capitalized. Whatever you think you need, you are probably undercapitalized by at least 50 percent. ☞

GETTING A JUMP ON STARTING

By Melea Reicks Licht

THE COLLEGE OF AGRICULTURE AND LIFE SCIENCES DOESN'T FOLLOW TRENDS IN ENTREPRENEURIAL EDUCATION FOR UNDERGRADUATES IN AGRICULTURE AND LIFE SCIENCES—IT SETS THEM.

As home to the Agricultural Entrepreneurship Initiative, Iowa State was the first university in the nation to have such a program fostering agricultural business development among students.

“Entrepreneurship is the fastest growing segment of higher education,” says Kevin Kimle, director of the initiative and Bruce Rastetter Chair in Agricultural Entrepre-

neurship. “Donor, administration and faculty support is really important, but the growth in entrepreneurship education at universities like Iowa State is ultimately driven by the interest of the students.”

The initiative was established in 2005, by a \$1.6 million gift from Roger ('80 agricultural business) and Connie Underwood, of the Ames-based company Becker Underwood.

“Iowa State’s entrepreneurship classes can help show the curious student if he or she is an entrepreneur that should strike out on their own, or an entrepreneur that should work inside someone else’s organization,” says Roger Underwood. “Both types of entrepreneurs can deliver fresh value by thinking smarter, acting faster and out inventing or out maneuvering others.” (He shares more thoughts on entrepreneurship in a Q&A session on page 18.)

Kimle and Stacey Noe are at the helm of the Agricultural Entrepreneurship Initiative. Noe coordinates the efforts of the initiative, assists with advising students and helps students design entrepreneurial experiences to meet their needs.

By the Books

Entrepreneurial education isn’t necessarily done by the book, but formal classroom education helps build core competencies

of the entrepreneurial process and business management.

In an economics course, “Entrepreneurship in Agriculture,” there is no textbook. Students use case studies to explore the entrepreneurial process and how to develop their own business plans. At the conclusion of the course, student teams present their ideas to a panel of experts and the top three teams win a monetary prize.

An experimental course in small business management exposes students to entrepreneurial ideas early in their careers. Also largely based on case studies, it covers management skills and business development.

Entrepreneurial issues are integrated into several courses across the college’s curriculum with special emphasis in Introduction to Agronomy (see page 4), Agricultural Selling and Farm Business Management. The college is also offering a new experimental course on farm appraisals that includes entrepreneurial concepts.

Students who desire official recognition of their efforts can declare a minor in Entrepreneurial Studies. The minor requires entrepreneurship and related courses and experiential credits earned working alongside successful entrepreneurs. Noe and Kimle advise those students and connect them with entrepreneurs to earn their experiential credits.



Photo: Bob Elbert

Students in the Entrepreneurship in Agriculture course prepare for their final presentation in which student teams present business plans to a panel of experts.

UP



Initiative coordinator Stacey Noe (left) helps students Carly Cummings and Michael Koenig find entrepreneurial experiences to match their interests. Cummings has been involved in a number of the initiative's programs and Koenig was selected for the initiative's new Student Incubator program.

Photo: Barbara McBreen

“Good connections are those with alumni that have passion and are willing to share and give back. We identify entrepreneurs through online searches, conferences and tradeshows and through the alumni association database,” Noe says. “We look for entrepreneurs from a variety of areas, and welcome interested alumni to contact us.”

The Agricultural Entrepreneurship Initiative also coordinates study abroad programs and domestic travel with an emphasis on entrepreneurship. Seventy students have participated in trips to China, Germany, Greece and California, New Zealand, Ireland and other U.S. locations are slated for future trips.

Real-World Experience

Michael Koenig, senior in agricultural education, has been selected for the initiative's recently launched Student Incubator program. He says the program will allow him

to take his ideas for launching a mobile application to identify weeds, insects and diseases to the next level.

The Student Incubator helps students develop a business plan for revenue-generating or investment-ready firms by accelerating the process of idea creation, business development and planning. The program provides coaching, mentoring, educational programming, access to subject matter experts and investors and other resources necessary for early-stage venture development.

“I first developed the concept for my business in the ‘Entrepreneurship in Agriculture’ class last semester,” says Koenig. “I am really excited to continue to develop the business with all the support I’m receiving.”

Koenig also was a member of the winning team at the initiative's 2011 Ag Innovation and Value Creation Competition. Fourteen student teams competed in the annual event, which challenges students to create a prod-

uct and develop marketing ideas. This year students were charged with finding a new use for optical sensing technology. Koenig and the winning team created a product called SmartChute using the technology to work with cattle. Faculty and entrepreneurs evaluate the teams based on creativity, innovation and value creation. Teams earn prizes based on their performance. Students can win cash, study abroad scholarships, dinner with notable ag business leaders and Iowa State versus Iowa football tickets.

“These opportunities are designed to be challenging and mind-opening. We give students a chance to apply the knowledge they’ve gained in the classroom to real-life situations in the agriculture industry,” Noe says.

The Agricultural Entrepreneurship Initiative will continue to expand entrepreneurial experiences for undergraduates both in and outside the classroom. **S**

Koenig (right) and his business partners and fellow agriculture and life sciences students Holden Nyhus (left) and Stuart McCulloh won one of the top prizes in the statewide Pappajohn New Venture Business Plan Competition. They received \$5,000 to help grow their venture Scout Pro—a mobile application to identify weeds, insects and diseases.



ONLINE EXTRAS: www.ag.iastate.edu/stories



Visit the Agricultural Entrepreneurship Initiative online.

INTERNSHIPS SHARPEN ENTREPRENEURIAL EDGE

By Barbara McBreen

Working alongside the owner of a company is standard practice for interns participating in the Agricultural Entrepreneurship Initiative in the College of Agriculture and Life Sciences.

Stacy Noe, program coordinator for the initiative, manages the internship program. It started with three students in 2007, and today more than 40 companies have participated to support 20 internships annually.

“The biggest difference compared to typical internships is that these students are exposed to the challenges of running the business because they are involved in the operation of the entire company,” Noe says.

Entrepreneurial mentors are matched with the right students for the best experience. That match worked for Shane Mairet ('09 horticulture) when he interned at Wallace's Garden Center in Bettendorf, Iowa. The internship served as a springboard for Mairet, who opened his own

business two weeks after graduation.

“I met a lot of people, including distributors and suppliers, which turned out to be significantly important when I opened my own garden center,” Mairet says.

Starting a business at the height of the economic downturn was a challenge. But Mairet says he's surviving because he views his business plan as a living document, which means it could change. At some point, Mairet says, he'd like to offer internships through his company.

“Entrepreneurs always warned me that it's rough,” Mairet says. “When I talk to students I tend to focus on that message, because if they can hear those negatives and go for it anyway, they are true entrepreneurs.”

Kate Terrell, a nursery manager at Wallace's Garden Center, mentored Mairet. She says the interns get hands-on, real-world experiences.

“Shane dealt with a lot of our vendors

and learned how to partner and network with them. We hope all our interns learn about working with customers and running a smart business,” Terrell says.

Terrell says the interns also are a resource for companies.

“The students add energy, new ideas and the horticultural knowledge to help our customers,” Terrell says. “The internships can lead to new hires for our company. Just this year we hired a past intern as a full-time assistant grower.”

Dakota Hoben, a junior in agricultural business, interned at the Iowa Agribusiness Export Partnership in Des Moines. One of the most important lessons he learned was that partnering with businesses abroad is hard work and requires strong relationships.

“Planning a trade mission requires a lot of communication and trust,” Hoben says. “I really learned to value those personal interactions with trip participants as we strived to make sure all the details for the business mission were ready to go.”

This summer 17 interns are working throughout Iowa and as far away as Detroit. They will sharpen their business skills learning about landscaping, dairy processing, marketing and processing wine, turning algae into feed and making prosciutto. **S**



Contributed Photo

Shane Mairet opened Mairet's Garden Center in Muscatine, Iowa, two weeks after graduating in horticulture in 2009. He says the skills he learned and connections he made during his internships have helped as a business owner.



Contributed Photo

Iowa State University's student chapter of the National Agri-Marketing Association has earned several national awards in recent years including Outstanding Chapter twice in the last five years and the 2011 John Deere Signature Award.

PRACTICE MAKES PERFECT

By Melea Reicks Licht

Undergraduate students are exposed to practical marketing and communication skills in the Iowa State student chapter of the National Agri-Marketing Association (NAMA).

Stacey Noe with the Agricultural Entrepreneurship Initiative, and Lori Youngberg, program assistant for the college's distance programs, advise the group's 60 students.

"What we do in NAMA is directly applicable to what ag marketing professionals do," says Noe. "We expose students to

marketing and communications careers by bringing in speakers from industry, we take them on agency tours, do service projects and provide networking opportunities that sometimes lead to internships and jobs after graduation."

The chapter's marketing team competes against other universities in an annual marketing competition that showcases the talent of Iowa State students on a national stage. The competition gives undergrads a chance to build and practice skills in developing a new product or

service, a business plan and pitching their ideas in a formal presentation. Team members also earn three credits in agricultural education and studies.

The Iowa State student chapter earned the John Deere Signature Award for overall points accrued for student participation, involvement in the national competition, scholarship awards and annual report at NAMA's 2011 annual conference and trade show. Noe also has been recognized nationally by earning the Outstanding Adviser award in 2007 and 2010. **S**

A SEAT AT THE TABLE

By Ed Adcock

Twice a year students get the chance to quiz agribusiness leaders who have grown their ideas into successful ventures at the Agricultural Entrepreneurs Roundtable Event. Organizers invite a diverse group of entrepreneurs to have dinner and talk with college students. The professionals vary by discipline, age and gender and represent new and established companies.

"The goal is to get students exposed to different forms of opportunity recognition and to learn through the experiences different entrepreneurs had," says Stacey Noe, Agricultural Entrepreneurship Initiative coordinator.

Harry Stine, president and founder of Stine Seed Co., was the keynote speaker at the spring event in 2010. He was impressed

Agricultural Entrepreneurs Roundtables give students like Josie Rudolph, a 2009 grad in ag communications, a chance to network with successful entrepreneurs like Bruce Rastetter of Hawkeye Renewables.

by the group of students at the roundtable.

And while he believes the urge to develop a business is "genetic," activities like the roundtable are helpful.

"Good coaching will not turn you from a nonathlete into an athlete, but it will enhance you and make you better. The same principle applies here. They can be

better business people than they otherwise would be by going to school and being involved in this type of thing," Stine says.

Getting to network with business people of Stine's caliber attracts many students, Noe says. She limits participants at each event to about 40 to allow students greater access to the visiting professionals. **S**



Contributed Photo

SCIENCE SELLS

HARRISVACCINES, ISU RESEARCH PARK TEAM UP TO BRING SCIENTIFIC SOLUTIONS TO THE PUBLIC

By Barbara McBreen

When you walk into Harrisvaccines Inc. you can feel the energy. The glass doors surrounding the reception area reveal offices with employees intently studying computer screens and deep in discussion.

Like any startup, this scene has taken time and energy to establish.

The business got its start in 2005 when Hank Harris, professor of animal science and veterinary diagnostic and production animal medicine at Iowa State University, and Matt Erdman, a doctoral student, discovered a vaccine to prevent Porcine Reproductive Respiratory Syndrome (PRRS).

The PRRS virus causes infertility and reproductive problems in pigs and can be economically devastating to producers. The two scientists decided to start the business in order to market, develop and distribute the vaccine. The company started out as Sirrah and changed its name to Harrisvaccines Inc. in 2008.

“In 2009, Harrisvaccines was the first company to market a vaccine for the novel H1N1 virus for swine,” Harris says. “Today the company is thriving

and making progress in finding solutions to PRRS and other diseases.”

Since its start, the company has grown from one lab with two scientists to four labs with 20 employees. In February, the company received the Tibbetts Award from the U. S. Small Business Administration for advancing technological innovation and economic growth.

Harrisvaccines Inc. is just one of 60 tenants currently housed at the ISU Research Park south of the Iowa State University campus. Steve Carter, director of the ISU Research Park and the ISU Pappajohn Center for Entrepreneurship, says the nonprofit organization provides an environment that encourages scientists who want to make their research available to the public.

“Our primary purpose is economic development. We want to keep these ideas in Iowa and we are set up to encourage and support these new companies,” Carter says.

For the past 10 years Mike Upah has led the ISU Pappajohn Center for Entrepreneurship’s business development program. He says the program has helped more than 150 businesses like Harris’ during that time. Helping entrepreneurs understand Iowa State policies, licensing and product marketability are just a few of the services the center offers.

Professor Hank Harris is the president and founder of Harrisvaccines Inc., which received the Tibbetts award from the Small Business Administration for its technological innovation and entrepreneurship.



Photo: Bob Elbert

Hank Harris (left) discovered a vaccine to prevent a reproductive disease in pigs. His son Joel (right) is chief marketing officer for Harrisvaccines.

“Every situation is different,” Upah says. “It’s not the easiest thing in the world to take that basic bench research and create a successful business. We are not attorneys, but we can help them understand, in business terms, what needs to be addressed.”

Businesses in the research park range from startups to large international companies that include biotechnology, cyber-innovation, agriculture, health, wellness and more. Harris is an example of a successful scientist who is continually innovating and pursuing new ideas, Carter says.

“He has the energy and drive to take these ideas and put them into the world because he believes it will benefit society,” Carter says. “He could have published an article about the research and been done with it, but it was his desire to help others.”



Photo: Bob Elbert

ENACTING THE By Sherry Hoyer ENTREPRENEURIAL NATURE OF AG

HE DIDN'T KNOW IT AT THE TIME, BUT A 1966 SWINE SEEDSTOCK 4-H PROJECT WAS THE FIRST STEP IN STEVE KERNS' INNOVATIVE CAREER THAT NOW SPANS COMMUNITIES, COMPANIES AND CONTINENTS.

"I came to Iowa State in 1970 as a freshman in animal science pre-vet. By the end of my freshman year, I knew I wanted to work only with swine," Kerns says. "Under the direction of Lauren Christian ('58 animal science), Lanoy Hazel ('41 PHD genetics), Al Christian and others, I started doing ultrasonic animal evaluation on swine breeding stock for independent breeders and swine test stations."

For several years the Clearfield, Iowa, native spent his winter and summer quarters doing ultrasound scanning in states east of the Mississippi River and pursued his studies during the fall and spring.

Kerns ('81 animal science) gained unmatched experience during this time that led to the creation of his first company offering ultrasound evaluation in 1977. Mentor Lauren Christian encouraged him to finish his degree before Iowa State switched to the semester system.

"I returned to our home farm to start expanding in Landrace genetics, and we began offering centralized production sales in Nevada, Iowa," Kerns says. "A few years later I started traveling with P.S. Dhillion of American Technologies to work with his clients in Greece, Thailand, Malaysia, Philippines, Hong Kong, Taiwan and China. I gained a wealth of international contacts and clients."

Kerns' career continues to thrive.

That 4-H project from 1966? It lives on as Kerns Farms Corp./KK Landrace. Also under Kerns' ownership: KFC Agri-Services (the company he started while an undergraduate); MULTIGENE USA, LLC, a joint venture with Multigene Plus from France; International Boar Semen; and, new in fall 2010, Heirloom Swine Farms, a niche market joint venture producing Berkshire pork for high end chefs and restaurants throughout the country.

"I learned early on in my career to always be looking forward. I've tried to be at the forefront of adopting and adapting new technology or the next generation of ideas," Kerns says. "Attending meetings, serving on a variety of advisory boards for industry and education and networking with people in and out of the swine industry is valuable."

The Kerns home operation is as multifaceted as his profession.

His wife, Becky, and sons Karl, a sophomore in animal science at Iowa State, and Matt, a junior in high school, all are part of the operation. The family has six farms producing five breeds of boars and gilts; 115 row crop and hay acres; 200 acres of pasture for 55 registered Angus cattle; and 200 boars in stud producing semen for fresh and frozen domestic and international sales.

He has held numerous leadership positions in the Iowa Pork Producers Association, including president. He also



Photo: Jeff DeYoung, Iowa Farmer Today

Steve Kerns sorts hogs in one of his barns near Clearfield. Kerns started his first business as an undergrad at ISU in 1977, which is still in operation.

serves on committees on the National Pork Board and National Pork Producers Council. In 2000 he and Becky were honored with the Master Seedstock Producer Award.

In honor of his distinguished career, Kerns was inducted into the Iowa State University Animal Science Hall of Fame in 2010. 

Andrea Falk Sellers is an attorney at Stinson Morrison Hecker LLP in Kansas City. Her background in science gives her the knowledge to work on patents, technology licensing agreements, trademarks and copyrights.



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SCIENCE SETS STAGE FOR PATENT ATTORNEY

By Barbara McBreen

Andrea Falk Sellers feels at ease advising her clients as both a scientist and entrepreneur. With a career path that took her from decoding DNA to drawing up patents, she is as much of an entrepreneur as the clients she counsels.

“Entrepreneurs take advantage of new opportunities. They aren’t afraid to change paths and try something new,” says Andrea Falk Sellers (’94 agricultural biochemistry), partner at Stinson Morrison Hecker LLP in Kansas City.

Falk Sellers works on patents, technology licensing agreements, trademarks and copyrights. She’s in the heart of the nation’s animal health corridor and many of her clients are agricultural-based companies in industries ranging from veterinary products to agrichemicals.

“One day I might be talking to an inventor about a new chemical compound and the next day I could be working on a world-wide patent strategy for a potential breakthrough drug technology,” she says.

Falk Sellers started out in agricultural

biochemistry at Iowa State, but changed paths as a junior. She credits Don Beitz, Iowa State University Distinguished Professor in animal science, for giving her the guidance to pursue a career outside the laboratory.

“I decided I didn’t want to be a scientist, but I wanted to stay connected to science. Dr. Beitz arranged a meeting with the patent attorneys that represented his lab at Iowa State—it was the best of both worlds,” says Falk Sellers.

Falk Sellers received her law degree from the University of Iowa in 1997. She recently returned to the law firm after three years as associate general counsel for the Ewing Marion Kauffman Foundation, the world’s largest foundation devoted to entrepreneurship.

While at Kauffman, Falk Sellers worked on an internet startup initiative, the iBridge Network, designed to make university innovations more transparent and accessible to potential licensees, including entrepreneurs. During her tenure, the network

increased from seven universities to 100 and from 700 innovations to 10,000.

At Stinson Morrison Hecker she is known for her expertise in intellectual property development and protection. Tony Strait, Associate General Counsel at Ceva U.S. Holdings Inc., says her understanding of science allows her to comprehend the unique characteristics and market positioning of its animal health products.

“She gets our business, which makes her very effective and efficient in helping us achieve our objectives,” Strait says.

The Iowa State Program for Women in Science and Engineering introduced Falk Sellers to the lab and her career in science. She spent the summer before her senior year in high school learning about sequencing gels and decoding DNA.

In October, Falk Sellers was recognized by the College of Agriculture and Life Sciences for her achievements and received the Superior Achievement Award for Early or Mid-Career Alumni. 

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SUN RIPENED

By Melea Reicks Licht

BIOTECH AGRONOMIST ENJOYS ANOTHER ROUND WITH SECOND CAREER IN WINEGRAPE INDUSTRY

A person would count themselves lucky to have enjoyed one successful career on the cusp of scientific breakthroughs in agriculture and improving farmer-profitability.

Nick Frey has had two.

Frey ('70 agronomy) had a 25-year career in research and new business development with Pioneer Hybrid International during the beginning of biotechnology. He left the industry and set out to enjoy the blue skies and warm temperatures of Sonoma County.

Along with great food, wine and weather, he found a new career using his science and communication skills to work with the Sonoma County Winegrape Commission.

As president, Frey directs \$1.2 million annually from grower assessments to promote Sonoma County as one of the world's premier grape growing regions. The commission also funds research on vineyard pests and diseases and conducts grower education.

Frey admits the diverse, small-scale agriculture of the wine grape industry seemed pretty foreign to him when he made the move from Iowa.

"I had no experience in grapes when I accepted this job, but my training in agronomy and plant physiology translates pretty well. And, my experience communicating in the controversial early days of biotech has come in handy," Frey says.

The commission consists of 1,800 independent growers who sell to third

party vintners. Frey says they have a few very large growers with more than 1,000 acres, but most members have 100 acres or less and 40 percent grow on less than 20 acres.

"The growers here are much like growers around the world—good people, down-to-earth. The growers on my board are working for the interests of all grape growers and not for their personal agenda," Frey says.

Grower education is an important part of the commission. It offers integrated pest management meetings; organic producer groups; pruning contests for vineyard employees and youth; tradeshow; and several programs on marketing, profitability and issues affecting grape demand. They also offer an employee development program for Spanish speakers.

Frey says they partner with vintners and the county tourism bureau to get the most bang for their marketing buck. Working together the county pulls in \$1.3 billion each year from tourism.

They target consumers and wineries through conventional marketing, but much of their efforts are online. Their website is rich with interactive features like maps, wine guides, grower profiles and a grape marketplace. The commission also has a presence on Facebook, Twitter and YouTube.



Contributed Photo

As president of the Sonoma County Winegrape Commission, Nick Frey does a little bit of everything, including harvest grapes alongside consumers at Sonoma County Grape Camp. The organization provides marketing and education programs for grape growers in the region.

"We want people to connect with our growers. We host sommeliers, offer tastings and tours in our vineyards. We go on the road jointly with vintners to major U.S. cities to host tasting events," Frey says. "We also offer a fantasy grape camp that pampers guests with great food and wine for two and a half days while experiencing the harvest and crush first hand."

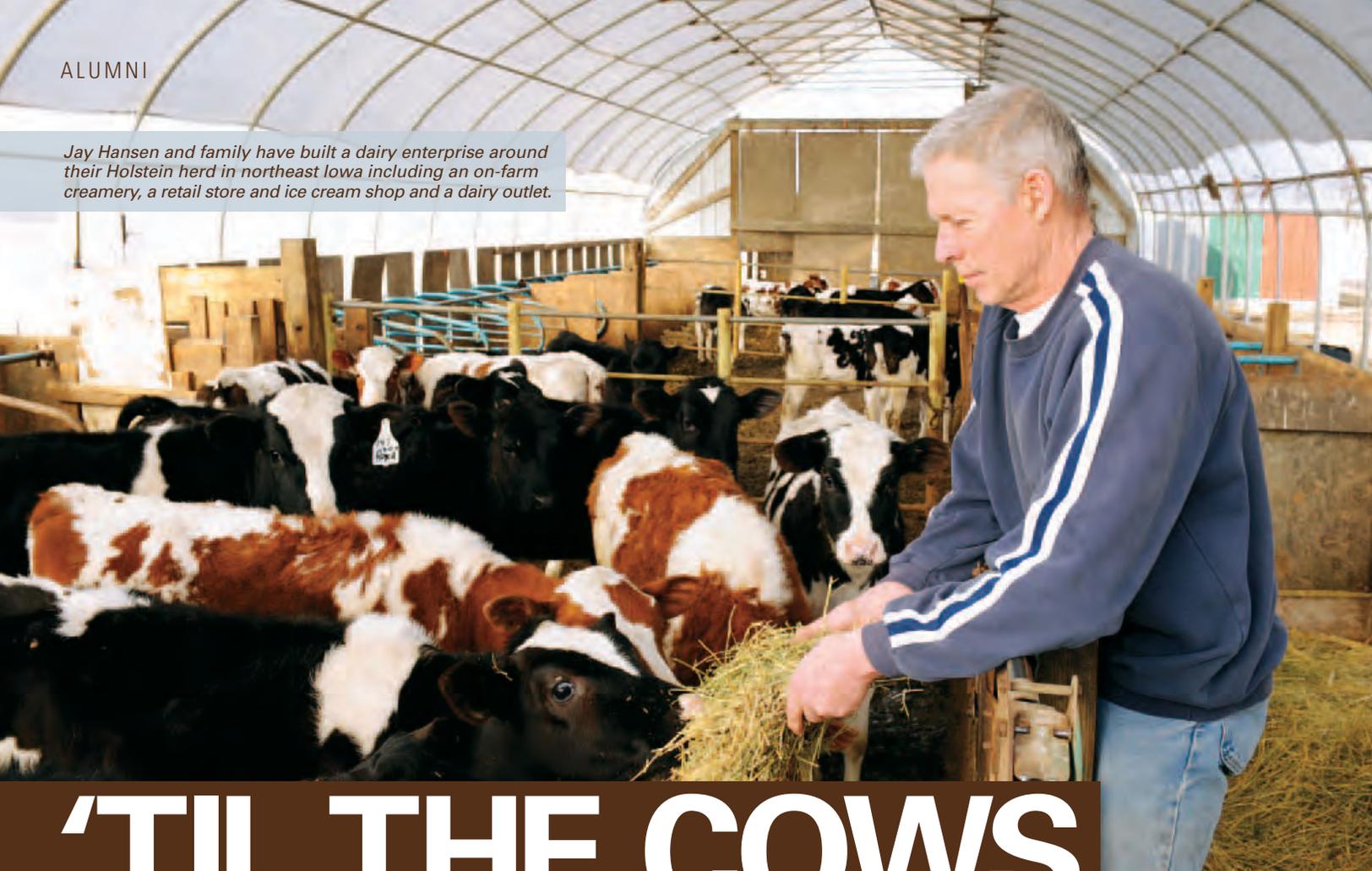
Frey says building relationships among growers, customers and "gate-keepers" like sommeliers, retailers and the media is essential to building their regional brand. 

ONLINE EXTRAS: www.ag.iastate.edu/stories

Get a taste of Sonoma County

Sonoma County is especially known for its Pinot Noir, Chardonnay, Cabernet Sauvignon and Zinfandel. You can find out more about their wines and the people who grow them online.

Jay Hansen and family have built a dairy enterprise around their Holstein herd in northeast Iowa including an on-farm creamery, a retail store and ice cream shop and a dairy outlet.



'TIL THE COWS COME HOME

By Melea Reicks Licht

HANSEN'S DAIRY SUPPORTS SEVENTH GENERATION

The curious faces of children peer out farmhouse windows, greeting recent visitors to the Hansen Family dairy farm in northeast Iowa.

Those little faces are the seventh generation of the family to be raised on the land since the 1860s.

Although the dairy operation near Hudson, Iowa, may be reminiscent of a different era, Jay Hansen ('71 agricultural education), his wife Jeanne and their family are keyed in to current consumer trends.

Their workday begins before 4 a.m. with the first milking. The cows will be milked again at 4 p.m. Every 12 hours, every day, the milking continues.

"We're a little old fashioned," Jay says. Our animals spend as much time outside as possible."

Hansen's herd of 175 Holsteins gives more than 1,200 gallons of milk per day. They raise their own replacement heifers and have an additional 25 dry cows. They don't use growth hormones to produce milk and their milk is non-homogenized.

Coming home to farm

About 10 years ago, the Hansens expanded the herd to allow two of their sons to join the operation. When their other two sons expressed interest in joining the operation, Jay knew they would need to expand again to support five families.

In response, they added on-farm processing. Their first milk was bottled in 2004, and within two years, the Hansens were selling all the milk they could produce.

"We were introduced to the processing

idea by Iowa State's Ron Orth with the Iowa Institute of Cooperatives. After studying as many 'what if' scenarios as possible, we started processing and things have just worked out," Hansen says.

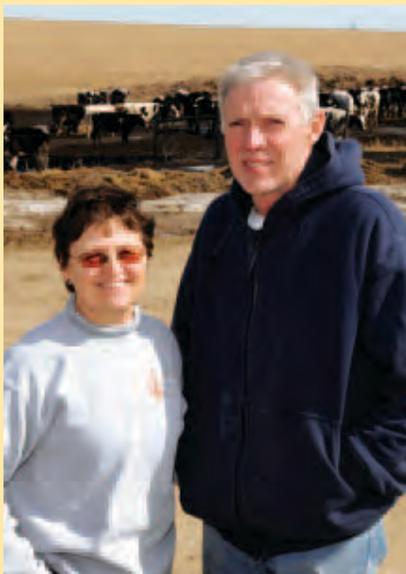
Jay can sound like a marketing analyst. He talks in terms like market radius (25 miles surrounding the farm) and managing supply and demand. He says they initially focused on smaller grocery stores, daycares and nursing homes. In time, larger grocery stores contacted Hansen to stock their products due to customer requests.

"Our product sells itself. It has flavor to die for. Once they taste it, people keep coming back," Hansen says.

Hansen is quick to point out he's "no entrepreneur." What he admits to, is being innovative. "We're just doing what farmers



Photos: Bob Elbert



have done for years—finding innovative ways to make money.”

Today their dairy enterprises consist of J&J Dairy, their Holstein herd; Hansen's Farm Fresh Dairy, farm-processed creamery products; Moo Roo, a Waterloo retail store serving up their hard-dip ice cream and selling their milk, cheese curds, butter, cream and other local products; and Hansen's Farm Fresh Dairy Outlet in Cedar Falls. In total they have nearly 20 employees in addition to 7 family members involved in various roles.

A typical day at the Hansen farm?

One recent spring day included milking, making cheese curds, draining butter, loading and making deliveries, grooming hooves and catching a loose bull. And that was just before noon.

It's hard to imagine how they keep everything straight. But both Jay and Jeanne have a supporting team of family members who help keep everything running smoothly.

Blair ('00 dairy science), the third oldest of the Hansen children, handles herd feeding, nutrition and the family's crop program growing alfalfa and corn. Son Blake is in charge of herd management and milking, and Blake's wife, Jordan, manages the farm's website.

Oldest son Brent is in charge of sales and delivery, making 125 weekly stops. Youngest son Brad, an ISU elementary education grad, works in processing and prepping product. The Hansen's fifth child, daughter Lynn, is a fellow Iowa Stater with a degree in elementary education. She lives in Omaha with her husband and children.

Jeanne is in charge of public relations, which includes a thriving agritourism business that attracts nearly 3,000 school children, 4-Hers, seniors and other visitors annually.

The Hansens believe they are marketing more than milk. It's a relationship with their customers. The trust is apparent with on-farm pick up of products available on the honor system. Each day as many as 30 customers help themselves to what they need from a cooler adjacent to the processing area, signing in and leaving payment in a drop box.

The family recently took on a new marketing partnership with Hawkeye Foodservice Distributors, which

A day at the Hansen Dairy farm is anything but typical. During one recent visit Brad Hansen and his kids bagged fresh cheese curds (left), while Jay and Jeanne took a moment to chat with visitors. The couple, who recently celebrated their 40th wedding anniversary, work alongside their four sons. Blair (right) trimmed hooves with his brother Blake while Brent was out delivering product.

wants to sell more locally grown food to restaurants and food suppliers. Jay says it has significantly broadened their products' reach.

Jay and Jeanne continue to innovate. They are building a unique domed home and visitor's center in preparation for future generations of Hansens. **S**

ONLINE EXTRAS: www.ag.iastate.edu/stories

See scenes from a day in the life of Hansen's Dairy.



WHAT'S WITH THE WALLABIES?

The Hansens' unique logo of a wallaby with a Holstein in its pouch "MooRoo" was inspired by son Blake's vacation in Australia. He was so taken with the animals he suggested the family buy a few and make them their logo, so they had a few shipped in. "They sell a lot of milk," Jay says with a smile. The wallabies also play a large role in the farm's agritourism, helping to draw in more than 3,000 visitors annually.

TWO ACRES, TWO WOMEN, ONE FARM

By Melea Reicks Licht

Maggie Howe has found her own place in agriculture by partnering with her mother to create natural bath and body care products from the herbs grown on their two-acre farm.



Photo: John Gibney

Maggie Howe's products are a bit different from those of most Iowa farmers.

Handmade, natural bath and body care products and luxury pampering items like "magic mud" are among the offerings created from the bounty of her herb farm Praireland Herbs, near Woodward.

Howe and her mother and business partner Donna Julseth are at home with

other niche farmers in her area, as well as conventional farmers. As she says, they all strive for the same goal.

"We are taking our land and skills and using that to create a sustainable livelihood. Everyone wants to do that whether they grow sheep or corn or vegetables," Howe says. "We can learn a lot from each other."

Howe ('98 public service and admin-

istration in agriculture, environmental studies), and Julseth have been growing herbs for their bath and body products for nearly 13 years on the two acres Howe grew up on.

Their products contain no synthetic colors or preservatives, and Howe says they are made with ingredients found in a typical kitchen. Olive oil, cooking oil, flour, honey, oatmeal and beeswax round out their list of ingredients. They are not certified organic, "too much paperwork," Howe says, but they buy

certified organic, fair trade and locally produced ingredients whenever possible.

Their key to success has been finding a loyal customer base online and creating products they need and want. Praireland Herbs offers difficult-to-find products like natural hair, baby and pet care that "come up high in Google search rankings" according to Howe. They do offer their products at local farmers markets, but 75-80 percent of their business is done online with orders placed from around the world.

"Since we're literally in the middle of a cornfield we always knew we couldn't rely on people walking in the door," Howe says. "We know our customers through our blog, Facebook and e-mails. We take Midwest friendliness and put it online."

Howe says working with her mom is "fantastic." Howe focuses on product development, marketing, promotion and the farm's online presence. With a background in conservation education, Julseth is especially suited for growing the herbs and dealing with customers. Julseth also teaches classes and brings in other educators to offer how-to sessions on making lip balm, natural dying, growing herbs, drying herbs and cooking with herbs, among others.

From a young age, Howe always knew she'd be her own boss. And she has used her education and inherent can-do spirit to find her own place in agriculture.

"There's many different reasons women come to niche agriculture today, but to succeed they have to believe in themselves and partner and trust others in their agriculture network," Howe says.

Value-added and niche enterprises seem to hold special opportunities for women entrepreneurs. Howe has seen it first hand. ■

IOWA STATE FAMILY EARNS ADVANCED DEGREES FROM FFA

The entire **Ronald Zelle** family of Waverly was awarded American FFA Degrees at the organization's national convention in October. **Ronald** ('83 agricultural and life sciences education, MS '87) is the agricultural education instructor and the FFA adviser for Nashua Plainfield Schools. He was awarded the Honorary American



Contributed Photo

FFA Degree teacher award in recognition of his educational achievements. His wife, **Mary Beth** ('86 agricultural and life sciences education),

received the Honorary American FFA degree in the other community members division. Their daughter, Debra, a junior majoring in horticulture, and son, Benjamin, a sophomore majoring in agricultural business and computer science, were awarded American FFA Degrees for their participation in FFA.

YOUNG ALUM MAKES A STATEMENT AS ENTREPRENEUR

Mike Taylor ('03 agricultural studies) was among young Iowa State Alumni named "STATEment Makers" by the ISU Alumni Association for their early personal and professional accomplishments.



Photo: ISU Alumni Association

Taylor says entrepreneurship is a way of life in his household. After minoring in entrepreneurship at Iowa State, he built Taylor Companies from the ground up. Today he and his wife, Lindsay, are partners in several businesses—including row crop and beef production agriculture, wholesale distribution, commercial real estate, property management, retail pharmacies and e-commerce retail businesses. And, he says, his 4-year-old daughter runs a mean lemonade stand.



Contributed Photo

Meet other "STATEment Makers" at www.ag.iastate.edu/stories.

ALUMNI GIVEN TOP HONORS BY ISU ALUMNI ASSOCIATION AND ISU FOUNDATION

Two college alumni were honored at the 2011 ISU Alumni Association and the ISU Foundation Distinguished Awards Ceremony in April. **Rodney Ganey** ('78 sociology, MS '81) of Henderson, Nev., was presented the Distinguished Alumni Award by the ISU Alumni Association. **Roger Underwood** ('80 agricultural business) of Ames, received the Knoll Cardinal and Gold Award from the ISU Foundation. Read more about the awardees at www.ag.iastate.edu/stories.

1948 GRAD INDUCTED TO ISU ATHLETICS HALL OF FAME

Ray Wehde, in the white jersey ('48 dairy industry), was one of 10 alumni who were inducted into the ISU Athletics Hall of Fame in October. He is pictured enjoying a quick pick up game with his twin brother Roy ('48 dairy industry), in the red jersey, who also played for the Cyclones. Ray is considered Iowa State's first NBA draftee. He was inducted into the Hall of Fame for basketball and track and field. His name appears among the 129 Hall of Famers on the All-America Walls, a new display around Jack Trice Stadium. "Enrolling as freshmen and going onto that beautiful campus with its buildings and everything, now that was awe-inspiring for a couple of country boys," says Wehde in an interview with the Sioux City Journal. "I remember the freshman team was open to anyone and sometimes there were 90 kids there trying to catch the coach's eye." Read more from Wehde at www.ag.iastate.edu/stories.

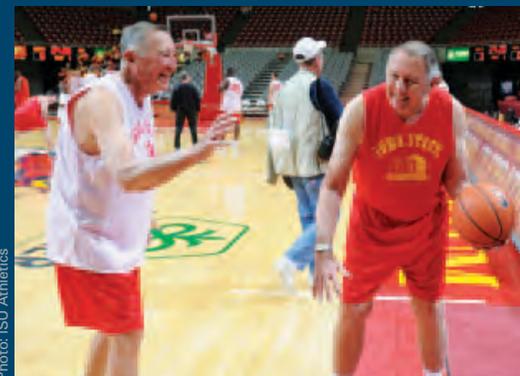


Photo: ISU Athletics

LISTEN UP: ALUMNI LECTURES OFFERED AS PODCASTS

James Borel ('78 agricultural business), executive vice president of DuPont, presented the 2011 Carl and Marjory Hertz Lecture on Emerging Issues in Agriculture in April at Iowa State. Borel presented "How Agricultural Innovation and Collaboration Will Shape the Future of the World" drawing on his experience leading DuPont's production agriculture businesses, DuPont Crop Protection and Pioneer Hi-Bred. He shared ideas on how advances in agricultural science will play a major role in shaping the future of global society and addressing world hunger.

Charles Stewart, Jr. ('00 agricultural biochemistry), research associate at the Salk Institute for Biological Studies in San Diego, offered the lecture "Fighting Hunger: A DNA Engineer's Path to Science and Success"

at Iowa State in March. Stewart was the first graduate of Science Bound, Iowa State's program to increase the number of ethnically diverse Iowa youth pursuing science, technology, engineering and math careers.

Neil E. Harl ('55 agricultural education, MS '65 economics), shared leadership lessons learned throughout his career as he gave the 2010 William K. Deal Endowed Leadership Lecture in October. Harl is a Charles F. Curtiss Distinguished Professor in Agriculture and Life Sciences and emeritus professor of economics specializing in farm finance, taxation, estate planning, business planning and agricultural law. Harl's presentation was titled, "Building an Enduring Leadership Platform."

To download podcasts of the lectures visit www.ag.iastate.edu/stories for a link.



FOR PLANTPEDDLERS ENTREPRENEURSHIP RUNS IN THE FAMILY

By Christa Hartsook

For Mike and Rachel Gooder “value added” has been second nature for more than 30 years.

The owners of Plantpeddler in Cresco, Iowa, purchased the greenhouse just a month after Mike (’80 horticulture) graduated from Iowa State University and a few days after they exchanged wedding vows. It didn’t take them long to start adding value and addressing new markets in wholesale. They added a new division to their local greenhouse, Plantpeddler Wholesale, providing weekly truck service to a regional market.

“We realized pretty early on that we’d have to keep diversifying our business and looking for new opportunities to add value to what we were producing,” says Rachel.

By 2000, Plantpeddler had gone global. Rachel (’79 horticulture) and Mike partnered with Dummen, a German company,

to produce Hiemalis Begonias for the North American market. Through that initial partnership, another division was added. Plantpeddler Young Plants imports cuttings from around the world for value-added processing by rooting and starting them prior to shipping to other greenhouses and markets throughout the United States. The young-plant production and distribution happens year-round at the facilities, serving more than 2,500 customers worldwide.

The addition of the different divisions allowed the staff to grow to 12 full-time, 22 part-time and 12 seasonal employees, making it a significant employer in Howard County.

Within recent years, the Gooders found renewed energy and enthusiasm in the production of local foods in their greenhouse.

“A few years ago, we had a startling revelation,” says Mike. “Iowa, for all its wonder-

ful corn and soybean production, is a net importer of food products. That’s not right.”

To the Gooders, it was clear Iowa needed more local food production. They researched varieties and learned a lot about greenhouse production.

“The idea is not only to produce local food for the area, but to balance the seasonality of the product lines and divisions we have here,” says Rachel. “We have established relationships with our outlets. We can both benefit through our providing them a food product in addition to the ornamental lines.”

Plantpeddler replaced 30,000 poinsettia plants with a trial of three acres of vegetables to determine the best varieties for greenhouse production. The operation began marketing under the name Stone Creek Farms. “We decided to focus on lettuce, tomatoes and cucumbers,” says Rachel.



Photos: Christa Hartsook

The Gooder family has been peddling plants in Creso, Iowa, since just days after Rachel and Mike exchanged wedding vows more than 30 years ago. Daughter Abby and son John are finding their own ways to carry on the family business.

The produce fills the greenhouse during slower months, keeping staff employed and facilities utilized, adding overall value to the operation.

“Mike and Rachel Gooder are marketers,” says Ray Hansen, director of ISU Extension’s Value Added Agriculture Program. “They know that just the desire to produce local food is not enough. There has to be a market for it and one at which they can make a profit.”

Hansen has worked with the Gooder family through the Iowa Fruit and Vegetable Working Group, which Mike is active in.

Mike also assists with several horticulture committees at Iowa State, providing insight on the industry. He has had an advisory role in the recent construction of the greenhouses on campus. The Gooders also offer internships for Iowa State students at Plantpeddler.

In addition, Mike and Rachel are active in the Northeast Iowa Food and Fitness Initiative, working to bring local foods to communities.

Next generation of Gooders carry on startup spirit

Gooder’s son John is a sophomore at Iowa State majoring in horticulture. He helped make the recent transition from poinsettias to produce. “It was a lot of trial and error,” John says. “We learned a lot the first three years.” John plans to work for PlantPeddler this summer and eventually join the family business.

Daughter Abby, a senior in agricultural business at Iowa State, has embraced value-added agriculture, too. Last year

she led a team in the Ag Innovation and Value Creation Competition sponsored by the college’s Agricultural Entrepreneurship Initiative. Abby’s product uses corncoobs for horticultural purposes. Her team placed first in the competition.

“I was pleased to win the contest,” says Gooder, “but the really exciting part was the encouragement from the panelists afterward. They told me that if our calculations and market estimates were accurate, then I should be really excited about pursuing the opportunity.”

A summer internship at Creative Composites in Ankeny solidified Abby’s desire to turn her concept into a reality. The bio-composite industry is assisting Abby in research and development of the product, and the Agricultural Entrepreneurship Initiative is helping Abby develop a formal business plan.

Given the value already added to their operation, it’s no wonder the Gooders hope for a bright future in local foods. “We like the idea of supporting the local foods movement and getting young people involved in gardening and their health,” says Rachel. “Naturally, we’d like to help our own children to grow and transition into the business, as well.”

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Matt Darr, agricultural and biosystems engineer, (right) talks with Kyle Althoff (left) and Feng Han from DuPont Danisco Cellulosic Ethanol about their collaborative research studying how the quality of biomass is influenced by harvesting and storage systems.

ARE HOOPS GOOD HOMES FOR BIOMASS?

Photo: Bob Elbert

By Ed Adcock

COLLABORATIVE RESEARCH AT BIOCENTURY RESEARCH FARM LOOKS FOR ANSWERS

Iowa State scientists have teamed with a company planning to build a biomass ethanol plant to research how to keep the material in the best condition before it is processed.

“The research we’re conducting is focused on understanding how the quality of biomass is influenced by harvesting and storage systems. Enhancing the quality of feedstock improves the conversion economics and final product quality,” says Matt Darr, assistant professor of agricultural and biosystems engineering.

DuPont Danisco Cellulosic Ethanol (DDCE) is evaluating the construction of an ethanol plant in Story County or Webster County. The plant will use biomass, such as corn stover, instead of corn grain to ferment into ethanol.

Storing biomass is a common practice, but research is lacking on how well it is preserved during storage. Darr’s research, which is sponsored by DDCE, is evaluating just that.

Biomass quality is impacted both by the cleanliness of feedstock when har-

vested and by biological processes that take place during storage.

“You can’t produce ethanol from soil,” Darr says. “Any soil collected during corn stover harvest adds to the overall cost of the delivered product and it increases the byproduct handling requirements of the biorefinery. Plus, in some conversion processes the added soil will actually decrease the conversion efficiency which is a significant economic factor.”

Deterioration during storage can also induce negative economic and biomass quality factors.

“It’s like leaving a loaf of bread on the counter for nine months,” Darr says. “If the biomass molds or deteriorates not only are you losing money because you’re losing feedstock or material, but the physical properties and chemical properties change during storage.”

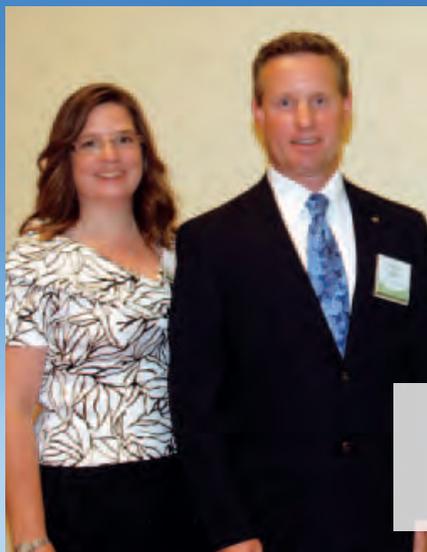
DDCE discovered Iowa State’s capabilities in this area through its participation in the Biobased Industry Center, according to Kyle Althoff, the company’s director of feedstock development. The center was founded

in 2008 to use the resources of interdisciplinary research and education programs to address critical business, infrastructure, supply chain and policy issues facing the growing biobased economy.

“The objective of DDCE’s work with Iowa State is to analyze the economic factors impacting the supply of corn stover to a future commercial cellulosic ethanol plant,” Althoff says.

Three hoop structures, open on the ends, have been built and are being used to store bales of stover in addition to several outdoor stacks of stover bales covered with plastic tarps. The structures are located at the BioCentury Research Farm, which is devoted to researching the production, harvest, storage, transportation and processing of biomass materials.

Most of the material was harvested in central Iowa on privately owned farms that were contracted with DDCE. After the storage research, the biomass material will be shipped to DDCE’s demonstration-scale plant where it will be evaluated for its ability to be converted to ethanol. ■



“Into the Field will give students a broader vision of what we do in the ag world... It’ll give us well rounded agronomists that will take the industry into the next 50 years.”

Amy and Harlan Asmus of Asmus Farm Supply have established the Into the Field Fund to provide support for sharpening the diagnostic, critical-thinking and communication skills of agronomy graduates.



INTO THE FIELD

By Melea Reicks Licht

ASMUS FARM SUPPLY PARTNERS WITH AGRONOMY DEPARTMENT TO CULTIVATE FUTURE AGRONOMISTS

Asmus Farm Supply and the Department of Agronomy have teamed up to take students “Into the Field” to prepare them for the demands of today’s agriculture industry.

The Into the Field program will help faculty and students develop relationships with practicing agronomists and provide field experience for agronomy students to enhance their value and viability in the workforce.

Asmus Farm Supply of Rake, Iowa, is a family-owned agricultural business specializing in farm chemicals, plant nutrition, seed and seed treatment. Amy Asmus, vice president of Asmus Farm Supply, sees the program as a win-win for companies and students.

“It has benefits for everyone in the future as we release into the field students that are well-trained and passionate about what we love, and that is ag retail,” Asmus says.

Asmus Farm Supply started the fund in 2010 as part of its 50th anniversary celebration. They asked those who had planned to present them with gifts to instead donate to the fund. With a donation by Asmus, along with their partners, enough was raised and pledged to kick off the program. More will be needed to sustain the program over a long period of time.

“We wanted to make an impact on the future for ag retail and manufacturers,” Asmus says. “We can cultivate the excitement of new students, carry it through four years of college and into the field which is how the program gets its name.”

Kendall Lamkey, professor and chair of the agronomy department, says the program will allow students to take their education to the next level.

“At Iowa State University we are really good with teaching the technical knowledge that exists behind the scenes, but that is just one part of them being a professional. Into the Field will help further round out these young people into professionals,” Lamkey says.

The program will provide support for teaching improvement. This will include opportunities for faculty to shadow industry agronomists; develop case studies for use in classes; pay fees to attend technology workshops and short courses; and accommodate travel to teaching conferences.

As part of Into the Field the agronomy department, in conjunction with industry, will develop a curriculum that will give students a broad range of experiences. It will also include an experiential field course for agronomy seniors with a focus

on sharpening diagnostic, critical-thinking and communication skills.

“Into the Field will give students a broader vision of what we do in the ag world and show them what’s available to them,” Asmus says. “It’ll give us well-rounded agronomists that will take the industry into the next 50 years.”

New industry partners are welcome to join Into the Field to help grow the fund and potentially endow the program, and to further develop relationships with the agronomy department. 

Contributed Photos



Amy and Harlan Asmus recently hosted members of the agronomy faculty, including department chair Kendall Lamkey (right), to discuss strategies to strengthen field experiences for undergraduates.

FIRST RECIPIENT OF MOHN SCHOLARSHIP IN ROUTE TO ROME

Amy Peyton is the first recipient of the Jim and Connie Mohn Scholarship. Peyton is a senior in agricultural business, economics and public service and administration in agriculture from Sac City. She will use the gift to fund her study abroad experience to Rome on the Dean's Global Agriculture and Food Leadership program where she will work on a team project with the United Nations Food and Agriculture Organization.

Jim ('75 agricultural education, animal science) and Connie Mohn from Cherokee, created the scholarship to support students in the College of Agriculture and Life Sciences as they prepare for and complete a study abroad experience. The couple set up the scholarship with a deferred gift, but chose to activate the account immediately by making annual cash gifts. "We hope these scholarships will help retain

students by providing an opportunity to study abroad, and help students obtain a degree," Jim Mohn says. "We're looking forward to meeting the recipients and seeing the impact of our gift." 



Photo: ISU Foundation

IN HER OWN WORDS: AMY PEYTON SHARES IMPACT OF SCHOLARSHIPS

Amy Peyton is featured in an ISU Foundation video describing her experiences at Iowa State. Peyton says receiving a privately-funded scholarship has allowed her to become involved on campus and make a difference by volunteering in elementary schools through her sorority. Watch the video at www.ag.iastate.edu/stories.

CURTISS RENOVATION TO GIVE AMBASSADORS ROOM TO GROW

The Student Ag Ambassadors are making do in their current office space—a former closet in Curtiss Hall. Thankfully, a new workspace is in store as part of the renovation of Curtiss Hall. It's one of many ways the renovation will benefit students. Plans include a student commons, meeting rooms for group work and interviews and a ground-level wing devoted to student services. The Ag Ambassadors help recruit in many ways, including campus tours and visits, off-campus events and shadow days, during which they host high schoolers for a two-day stay. Their new digs will give them room to grow and reach even more potential students. Find renovation details and learn how you can support the effort at: www.ag.iastate.edu/curtiss. 



Photo: Ed Adcock

ENTREPRENEURIAL SCHOLARSHIPS: A SURE RETURN ON INVESTMENT

The college awards nearly \$12,000 annually in entrepreneurial scholarships funded by private donors. The family of Leonard Hermanson ('25 dairy science) recently set up a scholarship program to support the top three student teams in the Entrepreneurship in Agriculture course. One of the Agricultural Entrepreneurship Initiative's prestigious scholarships honors emeritus professor Robert Jolly who was the first director of the initiative (see story page nine). Ryan Pellett ('91 agricultural business) and his wife Susan endowed a scholarship for students with an aptitude and involvement in entrepreneurship. Carly Cummings, a junior in agricultural business minoring in international agriculture and entrepreneurial studies, received the most recent Pellet Family Scholarship. 



Carly Cummings

Photo: Barbara McBrean

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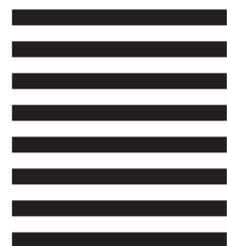
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When she was 9, Laura nourished her baby calf.



She was nourishing her dreams too. Laura Larson had a knack for agriculture. At Iowa State she learned she could use her skills for business. Through our National Agri-Marketing Association chapter, she made a marketing plan for a colostrum replacer and presented at a national competition. The skills she learned in an internship through the Ag Entrepreneurship Initiative nourished a startup business — and her career.

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