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Cultivate Fall/Winter 2015

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cultivate

CONNECTIONS • MINDS • INNOVATIONS



A Growing Legacy

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Fall/Winter 2015

LETTER FROM THE DEAN

It's been a great fall for the College of Agriculture and Applied Sciences.

During CAAS week we celebrated the remarkable and wide range of programs in the college, and the Utah Agricultural Products BBQ showcased the state's ag producers and raised scholarship funds for our students.



Others are taking note of our programs and scholarship support too. In November, Campus Explorer, an online service that assists more than 30 million students each year with college planning, ranked Utah State University the top pick for agriculture degree programs in the country. We wholeheartedly agree with their assessment!

One striking aspect of the school rankings was seeing the value our students receive for their tuition dollars. In comparison to the other schools in the top four, Utah State University's resident tuition was more than \$11,000 per semester less than that of the school with the next lowest tuition. You can see the rankings at tinyurl.com/USUranking.

We're proud to be part of the USU community and we respect the work that goes on all across the Logan campus and throughout the state. CAAS is especially proud to be the college that puts the "Ag" in Aggies because agriculture directly impacts all the other things people pursue in their lives. I was reminded of this at a recent lecture honoring Debra Spielmaker, a faculty member in our college, who recently achieved the rank of professor. She told how a reporter once asked her why it matters if people are "agriculturally literate." I echo the answer she gave that reporter: it matters because people need to appreciate that once they have their food, shelter and clothing they can then do and think about other things. Agriculture matters because it is the core of everyone's quality of life.

A handwritten signature in black ink that reads "Kenneth L. White". The signature is stylized and cursive.

Kenneth L. White

Dean, College of Agriculture and Applied Sciences;
Vice President, Extension and Agriculture

LETTER FROM THE CAAS ALUMNI COUNCIL PRESIDENT

THIS FALL, I had the honor of attending the annual College of Agriculture and Applied Sciences Awards and Honors Banquet. Prior to the banquet a reception was held for the students, professors, scholarship donors and many others involved with the college.

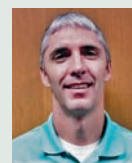
The names of the students receiving scholarships and recognition that night were displayed for all of us to see as we visited prior to the banquet. As I read the names of the students and the generous scholarship donors I reflected on the modest scholarship I received nearly twenty years ago. I was in my first semester at USU and I was on my own for the first time in

my life. I had saved a little money and worked evenings and weekends to help pay tuition. How grateful I was then to receive a little extra help with my school expenses. I'm constantly amazed at the wonderful CAAS students who have earned these scholarships. Their accomplishments attest to their hard work and determination. Some have overcome huge obstacles and they each have set their lives on the path to success.

As these CAAS students graduate from USU and move forward with their lives and careers, I invite each to consider someday giving back. There are a variety of ways to give back; one way is to serve on the Alumni

Council for the College of Agriculture and Applied Sciences. Council members come from diverse backgrounds, professions and ages and they each contribute in a unique way.

If you are interested in getting involved with the Alumni Council or would like to serve in another way, please contact Jean Edwards in the Development Office, 797-2205, or one of the council members. You will be glad you did!



David Bailey
CAAS Alumni
Council President

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If Utah is the premier place for outdoor recreation, it should be the premier place to train technical designers of outdoor products. Utah State University has launched the nation's first degree in outdoor product design and enrollment is exceeding expectations.



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Reed Funk left a legacy of living things. The turfgrasses he developed are used worldwide, and in retirement he turned his attention to trees as a means of producing food and improving the environment. Now USU students and researchers are benefiting from his passion for discovery and his family's generosity.



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Submit story ideas, comments and unsubscribe requests to Jean.Edwards@usu.edu or 4800 Old Main Hill, Logan, UT 84322-4800.

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COLLEGE of
**AGRICULTURE and
APPLIED SCIENCES**

UtahStateUniversity

by the numbers



DEGREES

Accounting/Management Information Systems (CC)	Electronics (CC)
Agribusiness (BS)	Engineering Drafting & Design Technology (CC)
Agricultural Communications & Journalism (BS)	Environmental & Natural Resources (BS)
Agricultural Economics (BS)	Equine Science and Management Emphasis (BS)
Agricultural Economics (MS)	Family & Consumer Sciences Education (BS)
Agricultural Education (BS)	Family & Consumer Sciences Ext. Education (MS)
Agricultural Extension Education (MS)	Food Safety & Quality (MFSQ)
Agricultural Machinery Technology (Cert, AAS)	Food Science (BS)
Agricultural Systems Technology (BS)	General Technology (AAS)
Animal Health & Disease (MS, PhD)	Heavy Equipment & Trucking (CC)
Animal Management (MS, PhD)	Horticulture (BS)
Animal Molecular Genetics (MS, PhD)	IT Support & Web Development (AAS)
Animal Nutrition (MS, PhD)	International Agribusiness (BA)
Animal and Dairy Science Emphasis (BS)	International Food & Agribusiness (MS)
Associate of Arts (AA)	Land, Plant & Climate Systems (BA, BS)
Automotive Technology (AAS, CC)	Landscape Architecture (BLA)
Aviation Fixed Wing (BS)	Landscape Architecture (MLA)
Aviation Rotorcraft (BS)	Machine Tool Technology (CC)
Aviation Technology Maintenance Mgt. (BS)	Natural Resource Economics (MS)
Bioregional Planning (MS)	Nutrition & Food Science (MS, PhD)
Biotechnology Emphasis (BS)	Nutrition Science (BS)
Bioveterinary Science Emphasis (BS)	Office Computer Systems (CC)
Building Construction & Management (CC)	Ornamental Horticulture (Cert, AAS)
Business (AS)	Outdoor Product Design & Development (BS)
Business Administration (AAS)	Plant Science (BS)
Business Education (BS)	Plant Science (MS, PhD)
Business Education (MS)	Professional Medical Coding (CC)
Career & Technical Education (MEd)	Regional Economic Development (MS)
Climate Science (MS, PhD)	Reproduction & Development (MS, PhD)
Cosmetology(AAS, CC)	Residential Landscape Design & Const. (BS)
Curriculum & Instruction (PhD/EdD)	Soil Science (MS, PhD)
Diesel & Heavy Equipment Mechanics (AAS)	Technology & Engineering Education (BS)
Dietetics (BS)	Technology & Engineering Education (MS)
Dietetics Administration (MDA)	Toxicology (PhD)
Ecology (Plants, Soils & Climate) (MS, PhD)	Toxicology (Plants, Soils & Climate) (MS, PhD)
Economics (PhD)	Welding (AAS, CC)

in pictures



Nearly 1,300 people attended this year's Utah Agricultural Products BBQ scholarship fundraiser at the Craig Aston Park. Since 2000, the BBQ has provided more than \$138,000 in scholarship funding to 175 students in the College of Agriculture and Applied Sciences. To see a short video on the BBQ, visit <http://tinyurl.com/AgBBQ2015>.



LAEP STUDENT AND FACULTY PROJECT

Now a Home for Visiting Scholars

BY LYNNETTE HARRIS

Logan's Hillcrest neighborhood, just northeast of the Utah State University campus, has a new energy-efficient, accessible, 1940s-vintage addition thanks to donor support and the vision and hard work of administrators, USU Facilities, and faculty and students in the Department of Landscape Architecture and Environmental Planning.

The structure has lived through iterations both public and private since it was constructed as a family home. For the past several semesters it has been the focus of Associate Professor Phil Waite's Field Studio class and will now serve as an extended-stay guest cottage for visiting scholars and designers in the department.

"The home has a beautiful mountain view, in a quiet area that is close to campus, and so despite the uphill challenges the structure and landscape presented we decided this was the time to transform it," said LAEP Department Head and Professor Sean Michael. "Landscape architecture is a problem-solving discipline

and this gave students and faculty valuable experiences." Michael said making the home and landscape ADA compliant to provide access for people with disabilities was an important learning opportunity for students. There were also times when design compromises were made, just as they are in the profession, and students saw where some decisions went wrong.

"The students have worked extremely hard and have a great sense of pride in the project's completion"

—Sean Michael

"The students have worked extremely hard and have a great sense of pride in the project's completion," Michael said.

The house underwent a transformation both inside and out. One of the many goals for the project is to demonstrate ways in which an old structure can be improved, made accessible, energy efficient and still fit visually with its neighborhood.

The front yard showcases a sculpture by recent landscape architecture graduate Nick Decker, planters that feature beautifully textured water-wise plants and a welcoming

2015 RETIRED FACULTY



Tom Bunch
Professor
Animal science



Ilka Nemere
Professor
Food science



Dale ZoBell
Professor
Animal science &
Extension specialist

NEW 2015 CAAS FACULTY

Gary Straquadine

Professor of agricultural education; associate department head and vice provost for career and technical education (USU Eastern)

Tyson Sorensen

Assistant professor, agricultural education

Kyle McArthur

Instructor
Professional career and technical education (USU Eastern)

Mason Winters

Instructor
Professional career and technical education (USU Eastern)

Roy Yoakam

Instructor
Professional career and technical education (Blanding Campus)

Frank Manderino

Professional practice assistant professor, aviation technology

Karl Hoopes

Extension assistant professor, equine science

Holly Mason

Clinical assistant professor, animal science

Kara Thorton-Kurth

Assistant professor, animal science

Benjamin George

Assistant professor, landscape architecture

Mateja Savoie-Roskos

Professional practice assistant professor, dietetics



front porch. Michael views the home as an exciting “new face or front door to the east end of the campus.”

Important changes to the house include the addition of insulation and reflective material in the attic that minimize heat trapped there on hot days. Walls were reframed inside the existing studs, which essentially made the exterior walls a shell for the interior and allowed space for insulation. Windows were replaced with energy-efficient ones, but retained the style of the original windows. Other features include five solar panels donated by Gardner Energy, each of which generates 240 watts of electricity. Indoor lighting was replaced with LED fixtures and all the plumbing fixtures are water-efficient.

Associate Professor Dave Anderson oversaw the home’s redesign and renovation and said the support from donors was essential to getting the project done. He looks forward to the home being an asset to the department and students.

Beyond the many learning opportunities the project provided, the finished home is a comfortable and functional temporary home for visiting scholars and practitioners.

“The vision for the space is to provide a visiting scholar’s cottage for colleagues at the apogee of their careers, and who want to impact the next generation of landscape architects and planners,” Michael said. “Logan provides a tremendous backdrop for someone to come experience the beauty and outdoor opportunities in this area while engaging with students.”

Photos: LAEP home exterior (left) and living room (above).
Dennis Hinkamp, photographer

Agricultural Education Student Chosen as National FFA Officer

BY SHELBY RUUD



Photo Credit, John Zairay (The Herald Journal)

Sarah Draper of Brigham City, Utah, an agricultural education major at Utah State University, recently was chosen to serve as western region vice president in the National FFA organization.

The organization's new leadership team was elected during the 88th National FFA Convention & Expo in Louisville, KY, in late October. Each year at the convention, six students are elected by delegates to represent the organization as National FFA officers. Delegates elect a president, secretary and vice presidents representing the central, southern, eastern and western regions of the country.

"It was a whirlwind of interviews, tests, and mock presentations with forty other candidates from across the nation," said Draper. "After a forty-year drought of National FFA officers from Utah, I am the first female national officer from our state. As a National FFA Officer I will be crisscrossing the country giving keynotes, promoting agricultural education, attending conventions and conferences,

addressing sponsors and stakeholders all the while encouraging students to amplify their experience in FFA."

The National FFA organization provides leadership, personal growth and career success training through agricultural education. National officers commit to a year of service to the National FFA organization. Each travels more than 100,000 national and international miles to interact with business and industry leaders, thousands of FFA members and teachers, corporate sponsors, government and education officials, state FFA leaders, the general public and more.

"From conferences and competitions to trainings and experiential learning, the FFA prepares students for careers in and out of agriculture and strengthens communities through promoting a service-oriented attitude," Draper said.

Draper first began her blue and gold journey as a freshman at Box Elder High School in an agricultural science class.

"Coming from a non-agricultural background, FFA opened many doors for me and grew my passion for agriculture," she said. "I cherish the relationships I made and skills I developed as I participated in chapter, state activities, and leadership positions."

Brian Warnick, associate dean of academic programs & student services in the College of Agriculture and Applied Sciences, said, "I first met Sarah when she was a student at Box Elder High School and I have been very impressed with her dedication and her passion for agriculture and agricultural education. She is an outstanding representative of the College of Agriculture and Applied Sciences, of Utah State University, and of the State of Utah. We are very pleased that she has been selected as a National FFA officer."

"FFA taught me how vital the agricultural industry is to our economy and way of life. Whenever or wherever there are people, they must have food," Draper said.

USU Aviation Advisor Receives National Award

BY SHELBY RUUD

Kaylee Roholt, an advisor in the College of Agriculture and Applied Sciences received the 2015 Outstanding New Advisor Award from the National Academic Advising Association.

The award is presented to individuals who have demonstrated qualities associated with outstanding academic advising of students and who have served as an advisor for three years or less.

"My role as an advisor is important to me because I work with students for their entire student career," Roholt said. "Faculty come and go depending on class schedules, but I see my students from start to finish. College is an exciting time of life and I love seeing the enthusiasm in students' eyes as they find the path that suits them best. I love to see students succeed."

Roholt advises for the aviation program in USU's School of Applied Sciences, Technology and Education.

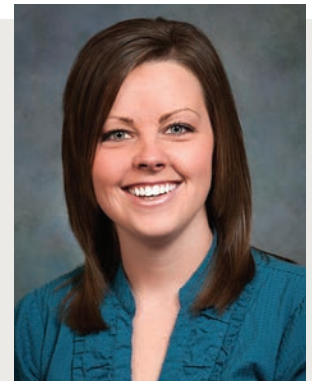
"Kaylee is very deserving of this award," said Brian Warnick, associate dean of the College of Agriculture and Applied Sciences. "She is successful as an advisor because she cares about students and their success. Her positive attitude is infectious and her students appreciate having her as their advocate."

Roholt is originally from Garland, Utah. She received her associate's degree from Snow College and went on to graduate from USU with a bachelor's degree in public relations in 2010.

The National Academic Advising Association, which consists of faculty, professional advisors, administrators, counselors and others in academic and student affairs, promotes quality academic advising and professional development to enhance students' educational progress.

"I enjoy taking the time to learn about each of my students so I can help them find the resources that suit them," Roholt said. "Everyone has their own story, and no two accomplishments or challenges are the same. I love that higher education allows people to mold their life and I am glad I am able to be part of the process!"

Roholt was honored with this award in Las Vegas, Nevada during the National Academic Advising Association's Annual Conference.



Kaylee Roholt

Agricultural Educator Receives International Award

BY SHELBY RUUD

Rebecca Lawver, assistant professor of agricultural education in Utah State University's School of Applied Sciences, Technology and Education, recently received the Educator Award at the North American Colleges & Teachers of Agriculture Conference.

This international award recognizes "commitment, excellence, and scholarship in college teaching."

Lawver teaches undergraduate and graduate courses in agricultural education. She is also the advisor for USU's Collegiate FFA Club.

"Preparing future secondary agriculture teachers is of utmost importance as we continue to see a shortage of qualified agriculture teachers," Lawver said. "Also, the public perception of agriculture careers is finally catching up to reality. People want to know where their food comes from, they want to know about nutrition, sustainability, food safety, and a host of other agriculture related things."

Lawver said helping create lifelong learners who can take meaning from their education is the best part of teaching.

"Dr. Lawver truly cares about her students," said Cassie Joiner, a student majoring in agriculture education. "You leave Dr. Lawver's classes feeling as if you have gained a friend."

One of Lawver's research projects focuses on a program that helps high school students get experience in agricultural jobs. Known as Supervised Agricultural Experiences, or SAEs, these internship-type experiences may include working on a farm, keeping a flock of chickens and selling the eggs as a small business, or creating a website for an agribusiness. Frequently, high school agriculture teachers are the ones helping students arrange SAEs, but students' direct supervisors sometimes don't have much training to prepare them to give students instructions. To help keep high school students safe, Lawver created a safety risk assessment for these experiences. This information will help agriculture teachers across the nation improve supervision and safety instruction.

"Whether someone is a high school agriculture teacher, college teacher of agriculture, or Extension agent, my hopes are to help all agricultural educators find their passion in teaching and use the research I've worked on to help them improve what they do," Lawver said.



Awards & Honors

Each fall the Awards and Honors Banquet is a highlight of College of Agriculture and Applied Sciences Week. Faculty members, donors and students receiving scholarships and awards gather for an evening focused on student researchers and outstanding work by faculty, staff and friends of the college. Learn more about each of this year's award winners at caas.usu.edu/awards/

CAAS Faculty & Staff Awards

- Distinguished Professor of the Year, Bruce Bugbee, PSC
- Faculty Researcher of the Year, Simon Wang, PSC
- Graduate Research Mentor of the Year, Abby Benninghoff, ADVS
- James LeGrande Shupe Achievement, Dale Barnard, ADVS
- Teacher of the Year, Anne Spranger, PSC
- Undergraduate Faculty Advisor of the Year, Jared Barrett, ADVS
- Undergraduate Research Mentor of the Year, Lee Rickords, ADVS
- University Service Award, Marie Walsh, NDFS
- Service to Faculty, Jeff Slade, PSC
- Service to Students, Thor Lindstrom, PSC

CAAS Student Awards

- Graduate Student Teacher of the Year, Scott Bartholomew, ASTE
- Graduate Researcher of the Year, Daniel Barandiaran, PSC
- Legacy of Utah State, Dallin Wengert, ADVS
- Scholar of the Year, Laycee Elliott, NDFS
- Undergraduate Researcher of the Year, Hailey Wall, LAEP

Friends of USU Awards

- Distinguished Service to CAAS, John Mathis
- CAAS Alumni Hall of Honor, John Ferry



BY JULENE REESE

Designing for the Great Outdoors

CAAS OFFERS THE NATION'S FIRST DEGREE IN OUTDOOR PRODUCT DESIGN & DEVELOPMENT

If Utah is the premier place for outdoor recreation, it should be the premier place to train technical designers of outdoor products.

This guiding statement for the new Outdoor Product Design and Development program, housed in the CAAS School of Applied Sciences, Technology and Education, is the force behind the nation's first undergraduate degree in designing and constructing outdoor apparel and products. Lindsey Shirley, associate professor of family and consumer sciences education and USU Extension clothing and textiles specialist, created the program after recognizing the need through her connections in the outdoor industry.

The OPDD program was in the works for approximately 18 months. It was approved by the Utah Board of Regents in July 2015, and Shirley hoped the program would attract around 15 students for its fall semester launch. Instead, approximately 85 students have expressed interest in the program and are making the move toward becoming the first official OPDD majors. Shirley and the program advisor each currently get three to four contacts a day asking about the program.

"The success of the program has far exceeded our expectations," she said. "We have a range of students inquiring about the program and committing to becoming majors. We have first-semester freshmen, transfer students and even a person pursuing



a second bachelor's degree after completing a master's degree. The launch has been impressive and exciting. Students will be able to go directly from their academic experience into a career setting."

Ken White, USU Extension vice president and dean of the College of Agriculture and Applied Sciences, said the new degree program will provide unparalleled opportunities for students in the college.





“We are very pleased to be the first university in the nation to have a program of this magnitude that will fill such a need for both students and industry, and commend Lindsey for having the insight and passion to develop this innovative program,” he said.

Shirley has worked closely with many outdoor product companies, including Utah-based Blackpine Sports. A consortium of outdoor product companies from across the United States expressed the need for employees with both technical and soft

skills, since intensive on-the-job training takes away from the design productivity of the company. Based on this, Shirley facilitated numerous discussions with industry leaders to identify the specific skillset they seek in their employees and received valuable input on developing the program.

“Participating companies are not looking for just a fashion designer, industrial designer or an engineer,” Shirley said. “They are looking for someone who can bring together skills from a variety of fields within the

lens of developing outdoor products. We are working across disciplines and offering students integrated learning experiences that resemble the professional experiences they will have."

The program is built on a core of 13 new courses specific to the outdoor product industry and incorporates existing courses on campus in subjects as diverse as design, natural resources, engineering, recreation, sustainability, ethics, drafting, chemistry, business management and marketing.

"Many outdoor product companies incorporate a line of soft good products to accompany the hard goods they develop," she said. "For instance, a company that designs and develops snowboards will often create soft goods to go along with the snowboards. Designing product lines that complement each other provides consumers with all their needs for the sport. Our program will prepare professionals who can design and develop both hard and soft good product lines."

Shirley said because of strategic partnerships with industry, the program includes design challenges facilitated by different companies to assist students in developing a wide array of products for a range of outdoor activities.

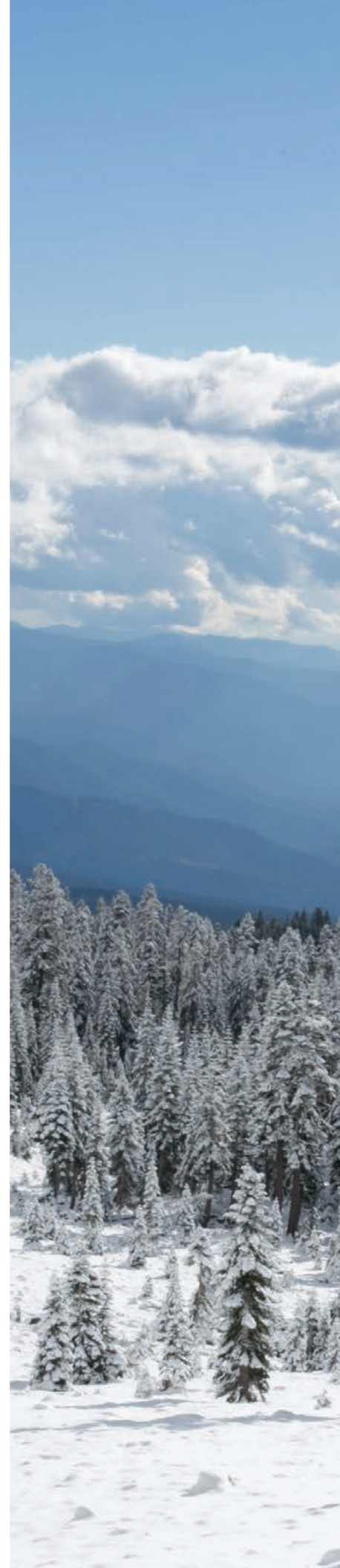
"If a student expresses interest in designing footwear, our partners that include footwear in their product lines can provide a real-life design challenge that creates a beneficial experience for both students and the company," she said. "This could be the impetus for a design competition that leads to a student or group of students travelling to the manufacturing facility overseas to experience the manufacturing process first hand. What an amazing educational opportunity that would be."

The learning environment will be fast-paced with creative and innovative assessments for students to use as a catalyst to build their portfolios.

"We need to move as fast as industry moves because outdoor product companies develop new product lines far in advance," she said. "They forecast future product lines before consumers are even thinking about the activities shown at the outdoor retail show. We have to think in fluid ways to keep the program moving and meeting industry demand."

Shirley said that since outdoor products and recreation are important in Utah's economy, the program and its priorities have been correlated specifically with the Governor's Office for Economic Development and its vision for outdoor recreation in the state.

"As the land-grant university, we're connecting to the needs of the state," Shirley said. "Outdoor products and recreation are identified as key economic industries in Utah. I think this approach reinforces our mission at Utah State University. This program will not only prepare a workforce, but it will continue to strengthen our local, state and global communities."







A GROWING LEGACY

BY LYNNETTE HARRIS

From his growing-up years on a Utah dairy farm through earning his bachelor's degree in 1952 at the Utah State Agricultural College (now Utah State University) and building a distinguished career at Rutgers University, Reed Funk cultivated a trait that frequently propels people who want to make big changes in the world: curiosity. The kind of curiosity that makes people wonder how things could be better and, more importantly, how they will make that happen.

When Funk died in 2012, he left a legacy of living things. His career as a turfgrass breeder resulted in hundreds of cool-season grass cultivars that stand up better to stress and pests than their predecessors. You may not recognize Funk's name, but no matter where you are in the world you've almost certainly walked on, mowed, played games on, cursed and admired the grasses he developed.

His daughter, Carol Funk Petersen (BS, '79) recalls that every road trip, every walk or hike with her father was an opportunity to study and talk about living things. Even though his career was focused on turfgrass, Funk was always observing plants, explaining and wondering aloud about their different characteristics, the soil conditions and how they might be used or improved. "Dad always looked for unusual plants, better plants, and

he was always reading and learning," Petersen said. "If we asked him a question he'd say, 'Let's go look it up in the encyclopedia.'"

Several years ago Petersen went to buy grass seed that she and her husband Brian (BS '82, MS '87) needed at their home and farm in Thatcher, Utah. She came away from the errand with grass seed and a reminder of some of her father's other distinguishing characteristics: optimism and tenacity.

She was asking the salesmen questions about various kinds of grasses—a lot of questions. The salesmen asked Petersen how she knew so much about grass. She told them her father was a turfgrass breeder, Reed Funk. They were appropriately impressed, and told her that in their circle, when anyone declared something is impossible, they invoked her father's name as a reason to try. To them, Reed Funk had become synonymous with attempting the impossible.

That attitude carried on throughout his life, well past his official retirement from Rutgers after having built the largest turfgrass breeding program in the world. He was rightfully proud of the advances his work had produced and the people he had taught and mentored, but was





not about to just sit back and watch the grass grow, even metaphorically.

He turned his attention and all that curiosity, optimism and tenacity to a new project: trees as a means of producing food and improving the environment.

You Can't Grow That Here

The land in and around Thatcher is nearly all field crops and rangeland punctuated by barns, homes and small communities. Then there is the Petersen's place with more than 20 acres of trees. It is no orchard like a commercial fruit grower would cultivate. The trees are all different varieties, for one thing. There are apricots, but there are also almond and pistachio trees; trees that shouldn't grow in northern Utah. But the point is to find out which ones will thrive here and consistently produce high yields of good quality fruits and nuts.

The trees in Thatcher and on the family's property in Richmond, Utah, and Dayton, Idaho, were Funk's idea, his passion after retiring from his academic career. He founded and initially funded a non-profit research foundation called Improving Perennial Plants for Food and Bioenergy (IP-PFBE) and went to work to identify species of trees that might fit a number of important niches.

It started with a trip to Uzbekistan where Funk acquired a number of different seeds that he thought might do well in Utah. His fascination with trees really began back on the family farm in Richmond where he helped his father experiment with grafting Carpathian walnuts onto black walnut rootstock. Their goal was to develop a nut tree that could stand up to the northern Utah cold.

Armed with apricot, almond, pistachio and other seeds gathered in Central Asia, he set out to do nothing short of trying to ease global hunger, conserve soil and help the environment and farmers.

"Dad was very interested in underused species of plants and especially things that might be grown on marginal land," Petersen said. "He really wanted to do work that would benefit the world."

Having been immersed in the world of plant science during the "Green Revolution" in the mid-20th century when high-yield strains of wheat and rice were developed to feed the world's growing population, Funk saw the promise and pitfalls of improving plants.

"He felt they'd about reached the genetic maximum for production and that we are going to have to grow other crops," Petersen said. "There are more people to feed and, at the



same time, amounts of available farmland are shrinking and water is becoming more limited. He knew more food is going to have to be grown on marginal land and tree crops are perennial so they help protect soil from erosion. Rocky soil is not as big a problem for trees, and nut trees have the potential to produce a lot of highly nutritious protein. He was also interested in the idea of harvesting carbon. The nut trees fit all the things he thought were important.”

Funk went to work with the patience of a research scientist, driven by his curiosity and a desire to make the world better.

“We had very poor germination the first year,” Petersen said. “Those first seeds had to wait to get through customs and he couldn’t control how they were kept. And then we direct seeded them. Now we start seeds in a greenhouse.”

There is a lot to learn because no one in this area has made a serious study of growing many of these kinds of trees. Even the apricot trees that are at home in northern Utah are all different varieties and produce very different fruits.

“We’re not tending a commercial orchard here,” Petersen said. “The goal for the apricots is to find a late-blooming variety that wouldn’t be damaged by late frosts in the spring. But the fruit on these trees ripens at different times so they can’t be harvested all at once and they are different sizes and colors and their flavors are very different.”

Commercial growers dread early and late frosts, unusually cold winters and drought. If these trees or those in Richmond or Dayton are lost to weather extremes it’s disappointing, but just part of the research. In addition to the apricots, pistachios and almonds there are hazelnut, pecan and walnut trees on the three properties.

Turfgrasses are much faster-growing research subjects than trees. It takes 7-10 years for a pistachio tree to bear nuts, depending on the variety and growing conditions.

So although Petersen didn’t grow up dreaming of experimenting with trees—her degree was in nutrition and food science—she worked with her father until his death in 2012 and is stewarding his legacy.

Plant science students from Utah State University have worked with the IPPFBE in Thatcher and Richmond in the past, but now the College of Agriculture and Applied Sciences will have an even closer relationship with Funk’s legacy. CAAS faculty and students are stepping up work on the Thatcher site and the Petersens are donating land and trees to be used for research. In addition, Funk’s brother Clarence is donating 320 acres in Richmond that includes rangeland also being used in research.

“My dad was very successful at breeding turfgrass, but that industry is huge and you get a new generation of plants every year,” Petersen said. “With some of these trees it’s seven or ten years between generations and there are fewer people interested in trees. Those are some of the reasons we wanted to get the university involved. It’s going to take years and a lot of research so it’s great for getting students involved.”

Scientists may even find value in Thatcher’s relatively salty water if it helps determine which varieties of plants are more tolerant to saline water and soils, a serious problem for farmers in many parts of the world.

A few plant science students have been at work gathering data on various trees and growing methods, and the Petersens’ and Clarence Funk’s generous gift to the college will provide long-term learning opportunities for more generations of Aggies. Will there be failures along the way? Certainly—that’s why it’s science. Will some of those students and their faculty mentors find tree varieties that could produce more food on marginal land? It’s possible. After all, it was Reed Funk’s idea.

Photos: Carol Funk Petersen with one of the first pistachio trees planted on their farm (left); Carol Funk Petersen (top left); Dennis Hinkamp, photographer Reed and Donna Funk (top center); Reed Funk (top right). Photos courtesy of Carol Funk Petersen



Linked to the Land

LOOKING TO THE FUTURE

BY DENNIS HINKAMP

He believes in competition, innovation and a healthy skepticism for tradition; John Ferry is a fourth generation farmer who understands constants and variables.

"I didn't get a degree at Utah State University, I got an education," he is fond of saying. He did in fact get a bachelor's degree in animal science from the USU College of Agriculture in 1978 and is this year's inductee to the College of Agriculture and Applied Sciences Alumni Hall of Honor.

Tradition and heritage are different, he explains. Heritage is looking at a fence that his grandfather built and appreciating the work that went into it. If people don't know the facts, they have to make decisions based on tradition.

He holds up a rusted horse shoe from a draft horse in one hand and a computer thumb drive in the other. "These are both tools," Ferry says. "One was from a horse my grandfather used to plow the fields on this farm and the other is a current tool for record keeping. You have to learn how to use new tools or your neighbor will. Farming and ranching is competitive and sometime tradition can be an obstacle to success."

He recalls his time in college waiting in line at the computer science building to load punch cards into those first computers. "These were some of the first spread

sheet software programs and I could see how these would make farming more accurate."

Ferry says he applies this approach every day on the Ferry family farm and its various enterprises in Corinne. Is accuracy expensive? "The cost of knowing is nothing compared to the cost of not knowing. We are not the cheapest, but I have a waiting list of people who want to feed cattle here because they know we are accurate."

Permaculture is a popular term right now. A basic tenant of permaculture is working with the land rather than against it. Ferry explains this as "never try to turn a constant into a variable." For instance, agriculture often sees wildlife in terms of depredation. The constant is that the birds are not going to go away; the variable is what we can do with this resource.

"We have wetlands on the property," he says. "We could try to manipulate these so we could grow corn on them, but wouldn't it be easier to grow ducks? So rather than fight it, we develop these wetlands for seasonal waterfowl hunting. Wildlife, ranching and agriculture can be synergistic. One of our highest margin enterprises is wildlife hunting permits."

"Today we were pregnancy checking cows and in the next field there were hunters shooting at ducks and geese," he says. "There is room for both if you work with the variables."

Photo: John Ferry (right)
Dennis Hinkamp, photographer



John Ferry

2015 ALUMNI HALL OF HONOR

why I give

More than 65 years have passed since I graduated from Utah State Agricultural College (now USU).

My education in horticulture and associated sciences paved the path to a 40-year career

that included advanced degrees, faculty service and administration at four major land-grant universities. The last 10 years was at USU as vice president for Extension and Continuing Education.

Getting a college degree has never been easy and certainly not cheap! During my junior and senior years at Utah State, Lorna and I were newly married. We came with nothing and have most of it left. We learned early in our lives that monetary support, even in small amounts, would be a blessing to USU students!



Paul and Lorna Larsen



We give because we are passionate about education and because we are grateful for the opportunities our experiences at Utah State University provided us as a foundation for our work and lives.

We are very happy to help the next generation of Aggies,

particularly those in the College of Agriculture and Applied Sciences.

Brian and Tami Warnick

“The Cache Veterinary Practitioners Association gives scholarships to the School of Veterinary Medicine at Utah State University because we are committed to helping lower the high debt load that most veterinary students incur during their undergraduate and professional training.

These veterinary student are dedicated

and high-performing, making it easy to know the money is well spent.”

Cache Veterinary Practitioners Association

alumni corner

“For me, one of the greatest thrills in life is to see people do better than they believe they can. It’s the team-building aspect of having people run faster and jump higher than they ever believed they possibly could.”



Steve Pollmann '75

When people asked Steve Pollmann’s steel-working father why he’d bought a farm in central Utah, he would respond: “I don’t farm — I raise boys.”

Those boys were given much of the responsibility of running the farm and tending the livestock. “I often tell people that I got into the hog business because my brother was a fast runner,” Pollmann chuckles. “He caught a greased pig at a rodeo and that gilt became our first sow.”

The brothers frequented area fruit stands, grocery stores and school cafeterias for scraps and outdated product, which they cooked and fed to their pigs. An old chicken coop was converted to farrowing pens. Their FFA project grew to 40 sows and a boar breeding service.

Pollmann’s early fascination with animal production served as his impetus to attend Utah State University, where he graduated with a degree in animal science in 1975. He later pursued advanced degrees in animal science with emphasis in swine nutrition and earned a PhD at the University of Nebraska. Pollmann launched his swine specialist career at Kansas State University with a split appointment in research and Extension.

“The fun part of the job was adult education, working with people who wanted to learn,” he said. “It was a great way to learn the industry and to network, and it served as a springboard to other opportunities.”

A period of limited resources at KSU made Pollmann anxious to do more, so he took the big step away from academia to work with Central Soya (which became Consolidated Nutrition), and saw big changes in the swine nutrition industry. After 14 years there he got an offer to come onboard with a “crazy idea” for a new pig operation in Utah – Circle Four Farms. The first year of business there was tough, Pollman said, but he learned

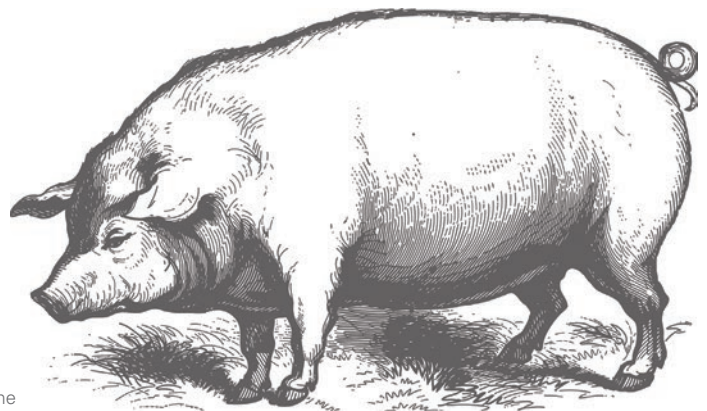
that little changes can have major impacts and cost savings. When he signed on for the job, the facility had about 25,000 sows. It grew to be a 75,000-sow operation with 450 employees.

“For me, one of the greatest thrills in life is to see people do better than they believe they can. It’s the team-building aspect of having people run faster and jump higher than they ever believed they possibly could,” he says.

Pollmann relocated back to the Midwest to serve as director of operations in 2001, which put him in charge of production, feed operations, and research for Murphy-Brown production west of the Mississippi River. Six years later, Pollmann was named president of Murphy-Brown West, headquartered in Ames, IA.

He was recognized by National Hog Farmers Magazine as 2012 Master of the Pork Industry. The following year, Pollmann retired from Smithfield Foods and started DSP Consulting, LLC working with swine producers and companies. He and his wife of 43 years, Shauna, relocated to Alpine, Utah and are in the process of preparing to serve a mission for the Church of Jesus Christ of Latter-day Saints in the coming year.

“Utah State University was an important springboard to a very rewarding career and fulfilling life,” Pollmann said.



Edited from an article by Dale Miller that appeared in National Hog Farmer Magazine



NUMBER #1

We're Number #1

BY ROGER COULOMBE

Professor of toxicology
Department of Animal, Dairy and Veterinary Sciences

Being ranked first in the nation is an admirable achievement for high school math scores or for graduation rates, but not if the distinction is for air pollution. The air we breathe in many parts of Utah is frequently the dirtiest in the nation. “Red Air Days” are a common occurrence in our cities. The American Lung Association’s 2015 “State of the Air” report awarded Utah an “F” grade for its poor air quality.

The form of air pollution prevalent in Utah’s urban areas is an especially dangerous kind, a microscopic soot called $PM_{2.5}$, which stands for “particulate matter with a diameter up to 2.5 micrometers.” These particles are so minute that they can easily pass from the lung into the

The American Lung Association’s 2015 “State of the Air” report awarded Utah an “F” grade for its poor air quality.

bloodstream, and to organs such as the brain. There is broad agreement that the high $PM_{2.5}$ pollution is one of the most serious public health challenges Utahns face. Not surprisingly, cleaning up our air is regularly identified as a top priority in surveys of Utah residents.

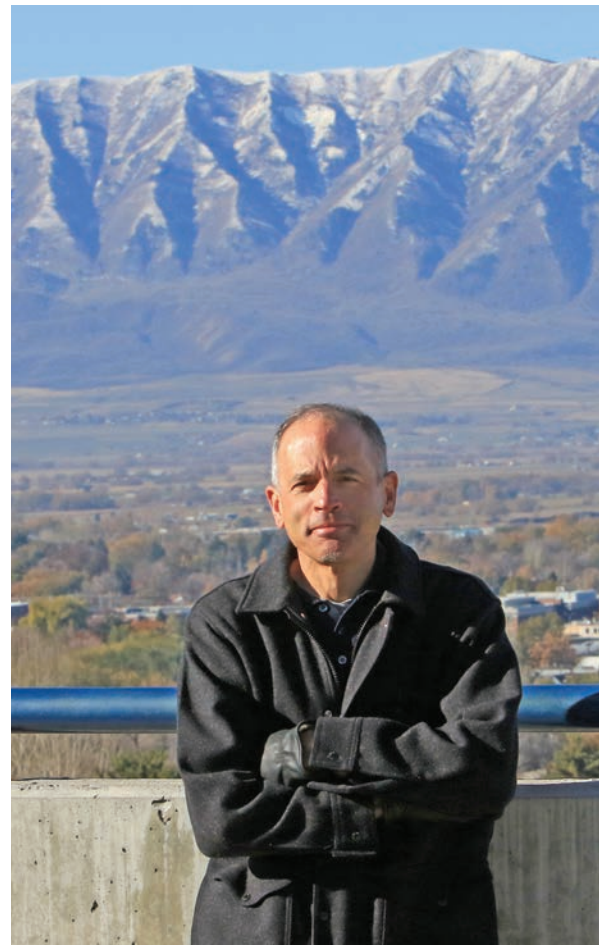
Extensive epidemiological studies from cities around the world show that breathing $PM_{2.5}$ is associated with numerous life-threatening diseases, such as asthma, chronic obstructive pulmonary disease, emphysema, stroke, Alzheimer’s disease, and lung cancer. Linked to autism, PM pollution may be at least partially responsible for the high incidence of autism in Utah, which is twice the national average. PM affects everyone exposed, but children, the infirm, and the elderly are at the greatest risk.

the last word



I work with a multidisciplinary team of scientists at Utah State University to quantify the health risk posed by exposure to $PM_{2.5}$ collected in Cache Valley. Initially working with human lung cells in test tubes, we discovered that Cache Valley $PM_{2.5}$ strongly induces the release of molecular markers such as C-reactive protein and inflammatory interleukins that are predictive of cardiovascular and cardiopulmonary disease. In two clinical trials conducted here, these same disease predictors were found in the blood of Cache Valley residents exposed to $PM_{2.5}$ levels well below the EPA 24-hour ambient standard of $35 \mu\text{g}/\text{m}^3$.

Our results have been affirmed by numerous clinical epidemiology studies conducted in Utah showing that breathing Utah $PM_{2.5}$, even for short periods of time, is associated with numerous adverse health outcomes, including heart attacks and increased mortality. Collectively, there is now an abundance of evidence that air pollution endangers the lives of Utahns, and that the current standard is not adequate to protect Utahns from diseases caused by breathing $PM_{2.5}$.



Photos: Logan Utah (left); Logan Main Street (above); Roger Coulombe (right)
Dennis Hinkamp, photographer

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