CSU taters are TOPS page 12
Citizen of the West is KING of corn flakes page 30
Take a break in a PARK(ing) space page 24
Organic Agriculture
Our program earns a PERFECT SCORE page 16
**BEEF. It’s what’s for DINNER.**

In KOREA.

Colorado State University’s international work benefits state agricultural industry

State leaders have repeatedly noted that agriculture – specifically, the robust export of beef and beef products – gave Colorado a substantial economic cushion during the recent Great Recession, then helped the state recover.

This illustrates how our college’s international engagement supports Colorado agriculture and the broader state economy; these international efforts are at the heart of our land-grant mission of service to Colorado, its citizens, and its agricultural industry.

Indeed, international work is a proud tradition for the College of Agricultural Sciences. For example, Emeritus Professor John Matsushita, to be honored by the National Western Stock Show as 2013 Citizen of the West, helped open Japan to U.S. beef exports through his international work. Colorado beneficiaries included beef processors Monfort of Colorado Inc., now a key player of global company JBS USA.

What are the benefits of our college’s international efforts? Here are a few:

- **Knowledge gained from CSU research flows to external audiences:** Knowledge gained from CSU research flows many ways. Our researchers are examining food, land, and water systems, for instance, in grasslands of sub-Saharan Africa, tropical montane cloud forests of Hispaniola; on struggling farms in the Andes; or cocoa farms in Madagascar. Our researchers are examining food, land, and water systems for instance, in grasslands of sub-Saharan Africa, tropical montane cloud forests of Hispaniola; on struggling farms in the Andes; or cocoa farms in Madagascar.

- **Community development in the world’s poorest nations while receiving funding from the U.S. Agency for International Development.** The federal agency funds research that holds promise for boosting economic development in the world’s poorest nations while also improving international trade and security for the United States.

- **Security**

  Consider global food riots that occurred in 2007-08 and 2010-11 as a result of crop failures and skyrocketing food prices. Such unrest is a clear sign of the need for international agricultural development; put simply, food scarcity contributes to overall security.

- **Agricultural scientists accept an important responsibility on this issue:** It’s no coincidence that several ongoing international projects in our college – such as to improve soil fertility in Ethiopia and water management in Afghanistan – receive funding from the U.S. Agency for International Development. The federal agency funds research that holds promise for boosting economic development in the world’s poorest nations while also improving international trade and security for the United States.

- **Students**

  To prepare students for success in a global economy, we must expose them to international challenges, partnerships, and problem-solving. Our students need the language competency, critical thinking skill, cultural competency, and political knowledge that arise from direct international study, and from knowledge gained through professors with extensive international experience.

- **National security**

  Nations may have borders – but knowledge has no boundaries. We’re all better for that, as is the agricultural industry to which we are devoted.

Craig Beyrouty
Dean, College of Agricultural Sciences
Craig.Beyrouty@colostate.edu
or (970) 491-6274

---

The College of Agricultural Sciences in late August teamed up with the U.S. Meat Export Federation to host a group of editors from Korea’s leading lifestyle magazines. Hosts provided visiting editors with information about quality and food-safety practices in every step of the U.S. beef industry supply chain, from Western cattle ranches to swanky Manhattan steak houses.

The first-time tour provided a transparent window on the U.S. beef industry and answered questions from key influencers in an important export market.

Scientists with Colorado State University’s highly regarded Center for Meat Safety and Quality gave the Korean editors research-based insights about food-safety measures through the supply chain, as well as information about consumer trends and the impact of sound production practices on meat quality. Our Agricultural Research, Development and Education Center was a main stop on the cross-country itinerary.

Here’s the significance: Korea was the No. 3 market for U.S. beef exports a decade ago, but that came to a screeching halt in 2003 with a scare over bovine spongiform encephalopathy, commonly known as mad-cow disease or BSE. Korea reopened to U.S. beef in 2008, and since then has rebounded to No. 5 export market position, according to the U.S. Meat Export Federation, based in Denver.

The educational trip was part of an ongoing effort to rebuild and grow this market – and other Asian markets that increasingly demand U.S. beef as many Asian consumers shift tastes in protein. Our interaction with Korean editors offers a telling example of the value of Colorado State University’s international work. Economics is the bottom line for much of our international teaching, research and engagement.

That does mean in Colorado? To continue the case example, beef is by far the top commodity in Colorado, where agriculture contributes an estimated $40 billion each year to the state economy. In 2011, cattle and calves generated more than $3 billion in sales, according to the Colorado Department of Agriculture.

To continue the case example, beef is by far the top commodity in Colorado, where agriculture contributes an estimated $40 billion each year to the state economy. In 2011, cattle and calves generated more than $3 billion in sales, according to the Colorado Department of Agriculture.

Craig Beyrouty, Dean

Colorado State University's international work benefits state agricultural industry
I was typically warm September in South Carolina, with temperatures reaching into the 80s, when Bill Bauerle first noticed something puzzling about tree leaves. It was the same with every species he examined — Paulownia, red maple, oak, birch.

Phytochrome activity was plummeting. Bauerle’s sensitive instruments measured a distinct slowing of the cycle: carbon dioxide absorbed and sequestered, and oxygen and water vapor released.

This was surely a mistake, he thought. Conventional wisdom among plant scientists held that warm environmental temperatures propelled photosynthesis, and it was definitely warm in the Appalachian early fall. Tree leaves were still green, with easily a month before a deciduous kaleidoscope would mark true fall.

But his measurements continued to confirm declining leaf activity. Bauerle, a plant physiologist, developed a novel idea: Maybe length of daylight, not temperature, is the primary driver of photosynthesis. He knew the notion, if validated, could have significant implications for modeling global carbon sequestration and the impacts of climate change, because in many places photoperiod ebbs several months before temperatures fall.

“I was surprised at what we were finding with tree leaves and photosynthetic activity, but at the same time I was excited that I had come across something new,” said Bauerle, a professor in CSU’s Department of Horticulture and Landscape Architecture. “Bauerle was working at Clemson University in South Carolina when his research on the subject began in earnest in 2005.

“T was a typically warm September in South Carolina, with temperatures reaching into the 80s, when Bill Bauerle first noticed something puzzling about tree leaves. It was the same with every species he examined — Paulownia, red maple, oak, birch.”

“I knew the findings might ultimately lead to adjustments in carbon and climate models from the leaf level to the global level,” said Bauerle. “I knew the findings might ultimately lead to adjustments in carbon and climate models from the leaf level to the global level.”

Experts on climate change and forest ecology at Duke University and with NASA’s Goddard Space Flight Center, along with scientists at the University of Illinois and the Royal Netherlands Academy of Arts and Sciences, agreed. The research team’s findings are based on measurements of tree leaf photosynthesis rates over five growing seasons. The scientists used portable steady-state gas exchange systems to monitor photosynthetic activity in the leaves of 11 tree species, including red maple, green ash, honey locust, white oak and birch. The team, representing research institutions in the United States, Canada and Sweden, also used previously published data from an additional 12 species.

Their leaf-level measurements controlled for factors including light, temperature and humidity to analyze photosynthetic response. The researchers found photosynthetic activity begins to decline many weeks before the leaves of deciduous trees change color and drop to the ground during fall.

Even in the early fall, tree leaves are lush and green, but our study found that their physiological activity is much less than we’d expect based on appearance. Because of that, we have been overestimating the amount of carbon they are fixing,” Bauerle said.
Jessica Davis had an idea that came from thin air: improve farming and global economic development by finding a simple, cheap way to make nitrogen fertilizer.

Davis, a professor in the Department of Soil and Crop Sciences, and one of her former graduate students, Mike Massey, teamed up with an ingenious idea to provide an essential plant nutrient.

The key is cyanobacteria—or blue-green algae. Davis and Massey founded Thin Air Nitrogen Solutions, LLC, a Colorado State University spinoff, to help fund research and development of their biofertilizer, and ultimately to help commercialize the innovation.

Since its formation in 2008, Thin Air Nitrogen Solutions has landed some $350,000 in grants. The most recent totaled about $100,000 from the U.S. Agency for International Development, significant because the federal agency funds research that holds promise for boosting economic development in the world’s poorest nations while also improving international trade and security for the United States. Indeed, Rajiv Shad, USAID administrator, hailed the work of Thin Air Nitrogen at a World Economic Forum meeting last spring.

"That's the goal—keep it cheap and simple." — Jessica Davis, CSU professor of Soil and Crop Sciences

"Four years ago, I had never even looked at a cyanobacterium," Davis said. Now, it's part of her everyday life.

The team's basic approach: Culture cyanobacteria from farmers' fields and nearby water bodies; the locally derived materials reduce costs and problems with invasive species. After the cyanobacteria are cultured from local soils, a process that takes about six months, the cultures are returned to farmers.

The blue-green algae then are grown in farm-based ponds, so farmers produce their biofertilizer on-site. During experimentation, Davis and her collaborators have delivered the nitrogen-rich fertilizer directly to soil using drip irrigation.

Davis and Massey are working to perfect the technology so the biofertilizer can be produced in a volume, timeframe, and at a cost that fits farmers' needs. As the duo carry out research, they keep an eye on making the system management and maintenance as simple as possible, while maximizing profitability for farmers.

"That's the goal—keep it cheap and simple," Davis said. "I think we can do this all with local materials, which will make it affordable."

The concept holds potential for U.S. farmers who want sustinably produced soil nutrients. Davis notes that most nitrogen used in the United States is imported from Canada, Russia, or Ukraine. That drives up costs and farming's energy consumption.

The innovation also holds potential in developing nations, where nutrient-depleted soils are a critical concern; subsistence farmers are desperate for solutions to improve harvests—and their livelihoods. In fact, Thin Air Nitrogen is actively working on the project with collaborators at Hawassa University in Awassa, Ethiopia, a land-locked country where transportation problems make fertilizer costs prohibitive. Davis led a delegation from the College of Agricultural Sciences to Hawassa University in early November to address this and other joint projects.

Davis hopes the bacteria-based biofertilizer will help improve the lives of subsistence farmers and their families in sub-Saharan Africa. In this poverty-stricken region, the vast majority of nations have hunger problems ranging in severity from serious to extremely alarming, according to the 2012 Global Hunger Index, released in October by the International Food Policy Research Institute.

Researchers pick cultures that grow well and float and some sink. They also are working on harvesting methods, because some cyanobacteria float and some sink.

Researchers take their work to local farmers, aiming to perfect biofertilizer production in natural light and temperature.

Prototype ponds are seeded with cyanobacteria cultured from local soils; this way, the bacteria are adapted to the area. Researchers take their work to local farmers, aiming to perfect biofertilizer production in natural light and temperature.

Thin Air Nitrogen Solutions research
• In the lab, scientists work with some of Earth’s smallest life forms—microscopic organisms called cyanobacteria that transform nitrogen in the air into fixed nitrogen, the kind that plants can use.
• Researchers pick cultures that grow well and fix the most nitrogen. Then they evaluate how different parameters, such as light intensity, aeration, culture depth, and nutrient solution ingredients, can affect rate of growth and nitrogen fixation.
• They are also working on harvesting methods, because some cyanobacteria float and some sink.
• Researchers take their work to local farmers, aiming to perfect biofertilizer production in natural light and temperature.
• Prototype ponds are seeded with cyanobacteria cultured from local soils; this way, the bacteria are adapted to the area.
• With every step in research and development, Thin Air Nitrogen works to simplify system management and maintenance, and to maximize profitability for farmers.

Source: Thin Air Nitrogen, LLC
Rice researcher Jan Leach vividly recalls the day in 2008 when federal officials declared *Xanthomonas oryzae pv. oryzae* – bacteria she has studied for three decades – as a “select agent” with potential for use in bioterrorism.

“I cried,” said Leach, a Colorado State University Distinguished Professor of plant pathology.

Leach knew the designation would mean onerous regulations for her laboratory and greenhouse as she works to understand and strengthen rice resistance to *Xanthomonas oryzae pv. oryzae*, which causes bacterial blight disease and devastating crop losses across Asia.

In complying, Leach unwittingly has gained new expertise in managing dual-use research, meaning studies whose findings could greatly improve human well-being, yet in the wrong hands could be used for biowarfare or bioterrorism.

Leach’s insights recently led to her appointment as a new member of the high-profile National Science Advisory Board for Biosecurity. Dr. Francis Collins, director of the National Institutes of Health, invited Leach to join the board, her two-year term began in August.

The 25-member federal advisory board, coordinated by the US Department of Health and Human Services, is composed of leaders in a range of scientific disciplines. The board advises federal agencies about the complexities of dual-use research, and suggests guidelines to protect public health and national security without hindering scientific progress.

“I’m kind of a rosy person, so I don’t like to think about terrorists. But I don’t want to see science shut down because of irrational people,” said Leach, who works in the CSU Department of Bioagricultural Sciences and Pest Management.

“It’s critical that scientists are involved in policy discussions,” she said, because they can provide fact-based views of risks and benefits of dual-use research. This year, dual-use research has been a red-hot topic among life scientists, sparked by debate over the publication of studies involving the avian H5N1 influenza virus.

“What’s important is to have rational scientists thinking about the potential for evil, for good,” Leach said. “Many of these discussions involve risk-benefit analysis. What’s the balance? If we block research because of the potential for evil, do we block our ability to help people?”

Leach is a foremost expert in rice genomics and the interactions between plants and pathogens at the molecular level. As a University Distinguished Professor, she is among a select group of world-class CSU professors known for outstanding scholarship and achievement.

She also is a past president of the American Phytopathological Society, a scientific organization dedicated to the study and control of plant diseases, and is current chair of the society’s Public Policy Board, among other prominent roles.

“Dr. Leach’s appointment to the National Science Advisory Board for Biosecurity is a great testament to her research expertise and her dedication to science as a path for improving food security and quality of life for people around the world,” said Craig Beyrouty, dean of the College of Agricultural Sciences. “Her public-policy insights are an important contribution.”

Leach has worked extensively with *Xanthomonas oryzae pv. oryzae*, a bacterial pathogen that causes rice blight disease. The disease often wipes out between 20 percent and 50 percent of rice crops raised by farmers in Asia.

That’s often disastrous because rice is the most important food crop in the developing world and the staple food for more than 3 billion people – about half the world’s population, according to the International Rice Research Institute. It is grown by subsistence farmers across Asia.

Leach, who employs new genomics technologies and collaborates closely with colleagues in Asia, seeks to determine how rice resistance to *Xanthomonas oryzae* can be strengthened and sustained.
Kelly McKay is a rising star in the world of plant biology. In the context of improving agriculture, he explores how plants adapt to different environments.

McKay, a plant biologist and associate professor in the Department of Biological Sciences and Pest Management, is known for his work on plant adaptation to drought. He is dedicated to understanding the genetics of adaptation in local plant populations, which is essential to improving agriculture.

Highly technical, yes. Yet this is the kind of science that leads to improving drought tolerance and other prized traits in crops. McKay leads the course along with fellow College of Agricultural Sciences researchers Bill Bauerle and Pat Byrne.

The Monfort Professor designation spans two years. Rajiv Khosla, a professor of precision agriculture, is a Monfort Professor in the Department of Agricultural Sciences, and Plant Breeding for Drought Tolerance.

McKay is an active mentor for undergraduate students. He and colleague Stephen Chabold developed and coordinated a Biological Summer Undergraduate Research Enrichment program. Students in the program conduct independent laboratory research, with mentoring and peer interactions that help develop presentation skills, laboratory techniques and experimental design skills.

In addition, McKay has led a plant science outreach effort at a local elementary school that annually exposes thousands of K-12 students and their parents to plant science topics.

McKay has received a number of recent awards and recognitions. For instance, he was one of 20 invited participants to New Physiologist Workshop: Ecological and Evolutionary Genomics of Plant Adaptation in the United Kingdom. He was a featured speaker at the 2011 Keystone Meeting on Plant Abiotic Stress Tolerance Mechanisms, Water and Global. He also was a featured speaker at the annual Ecological Genomics Symposium in 2010. And he received the 2009 Community Science Outreach Award from Putnam Elementary School in Fort Collins.

The Monfort Family Foundation established the Monfort Professors award in 2002 to reward innovative teaching and research among junior faculty. The program helps CSU recruit and retain talented faculty. Faculty members are nominated for the award and are competitively selected, the designation spans two years. Rajiv Khosla, a professor of precision agriculture in the Department of Soil and Crop Sciences, previously was a Monfort Professor in the College of Agricultural Sciences.
You say **POTATO,**
I say **COLORADO**

CSU spuds grabbed the spotlight this year. Take a look!

1. Colorado potato sales totaled nearly $250 million in 2011—making potatoes tops among all fruits and vegetables in Colorado and the state’s No. 7 commodity overall.

2. In Colorado, the San Luis Valley is spud hub. The majority of potato acreage here—about 60 percent—is planted in varieties developed by Colorado State University’s Potato Breeding and Selection Program.

3. The San Luis Valley Research Center is home base for CSU’s potato program. Meet the tater team: Rob Davidson, from left, center manager and specialist in seed potatoes and potato certification; Dave Holm, potato breeder; Sancy Jayan, authority on post-harvest physiology and storage; and Samuel Essah, expert in potato production, physiology and storage.

4. Dave Holm—email name, “spudmkr.” He leads the Colorado Potato Breeding and Selection Program. The program has released 28 varieties since it began in 1979—impressive, because it takes 14 years to create a new type of potato. These cultivars have been developed just for Colorado’s environment and markets, with emphasis on yield, sustainability, improved quality, flavor, and human-health benefits.

5. The CSU potato program is a model for its successful work with state growers. In fact, the Colorado Potato Administrative Committee, which represents growers, supports CSU potato research to the tune of about $250,000 a year.

6. Caroline Gray, a research associate at the San Luis Valley Research Center, works in a greenhouse with potatoes primed for cross-pollinating. The CSU program uses traditional plant-breeding methods; these spuds are not genetically engineered.

7. Gray removes anthers, or male parts, from the flower of a potato plant to collect their pollen. This is a male parent.

8. Now Gray applies pollen from the male parent to the stigma of the female parent. Anthers have been removed from the recipient flower to avoid potential pollen mixes. This way, crosses with desirable progeny can be identified and repeated.

9. Rob Davidson examines microtubers stored long-term for use in tissue culture. This material contains traits that might be useful in future potato breeding.

by Coleman CORNELIUS
10. These plantlets, held by Carolyn Keller, have been propagated through tissue culture. Tissue culturing occurs in the sixth year of the potato-breeding process, when researchers have distinguished a potential new cultivar – called an “advanced selection” – and are working to perfect it for seed certification.

11. Want a tasty tater? Dial up Sastry Jayanty. Here, he collects volatile compounds from a potato. These compounds contribute to a potato’s flavor through a specific aroma profile. Jayanty’s volatile testing adds to potato research, with the aim of producing more flavorful potatoes.

12. Want a healthy tuber? Call Tatiana Zuber. She recently earned a doctoral degree in horticulture and examined the cancer-fighting antioxidant compounds in potatoes with colored flesh. These include the Purple Majesty, a popular specialty potato with vivid purple pigmentation, which CSU released in 2005.

13. Here are two popular CSU potato varieties that drew special attention during the 2012 growing season:

13. Mountain Rose, released in 2005, is a specialty fresh-market variety with red skin and light-red flesh. It’s a multipurpose potato that’s high in antioxidants. Holm has developed pigmented potatoes by introducing wild and heirloom potato species during breeding.

14. Sangre, released in 1982, is a fresh-market variety with red skin and white flesh. It’s a flavorful spud that stores well and is good for boiling and baking.

15. Presenting the 2012 White House Kitchen Garden, featuring potato varieties Sangre, Mountain Rose and Canela Russet. That’s right, First Lady Michelle Obama and a group of schoolkids planted the three varieties in the First Garden last spring. All three were developed by the CSU Potato Selection and Breeding Program. Just another sign that our taters are tops!

The CSU potato program is now introducing two new varieties – called Masquerade (16) and Crestone Russet (17) – with at least one more new variety waiting in the wings for naming and release in the coming year. Look for them at a gardening center or market near you!

Sources: Colorado Department of Agriculture, Colorado Potato Administrative Committee, Colorado Potato Breeding and Selection Program, Obama Foodorama.

Photographs by Dan Bihn, Colorado Potato Breeding and Selection Program, and Eddie Gehman Kohan/ObamaFoodorama.com.
The Organic Agriculture Program, offering the most popular minor in the College of Agricultural Sciences, recently earned a perfect score for the quality and breadth of its teaching, research and outreach from a leading industry foundation that evaluated similar programs at land-grant universities nationwide.

The Colorado State University program was among 70 evaluated by the Organic Farming Research Foundation for its 2012 Land Grant Assessment report. The CSU Organic Agriculture Program was one of just six to attain perfect marks for its offerings.

“As the organic industry has grown from $7.4 billion in sales in 2001 to $28.6 billion in 2010, the Organic Farming Research Foundation has expected the land-grant university system to keep up the pace with increased investment in organic research, outreach and training opportunities,” according to the foundation report.

The CSU Interdisciplinary Minor in Organic Agriculture, established in 2005, exemplifies the university’s sustainability focus. The Organic Agriculture Program benefits from frequent interaction with industry partners, including the prominent Grant Family Farms; from northern Colorado’s vibrant farmers market scene; and from university resources, including expert faculty and gardens designed for teaching and research.

The minor has 41 students enrolled in fall 2012, with most majoring in horticulture or soil and crop sciences.

“We are pleased to offer a high-quality program that appeals to students while also advancing research and engagement in a dynamic sector of agriculture. It’s rewarding to receive national recognition for this work,” said Craig Beyrouty, dean of the College of Agricultural Sciences.

Students in the program said they picked the organic path because it focuses on raising food with a philosophy and practices that value long-term environmental sustainability.

This focus plays out as organic farmers and ranchers forgo synthetic fertilizers, pesticides, antibiotics, genetic engineering and added hormones. Instead, producers use naturally derived inputs and management strategies based on knowledge of complex land, water and food systems.

Driving the sharp increase in nationwide sales of organic products is an exploding desire among consumers to understand the sources of their food and how it’s produced.

“Organic systems are important to promote. Whatever I do, I want it to be as sustainable as possible.”
— Joseph Jonas, senior in horticulture. Grew up on Midwestern farm raising corn and soybeans using conventional practices and wants to move into organic production.

Feeding the Community
The CSU Horticulture Field Research Center north of Fort Collins grows an array of vegetables and berries as part of the university’s specialty-crops and organic research. The produce is donated to the Food Bank for Larimer County for individuals and families in need.
“The benefits of organic agriculture will eventually speak for themselves because it’s a more sustainable approach. We are growing food with finite resources, and we won’t have to convince people to use resources more efficiently because we won’t have a choice.”
— Sara Kammlad, horticulture graduate student with a focus on organic production. Came to CSU from Illinois and has worked at the CSU Horticulture Field Research Center.

About organics

Consumer demand for organically produced goods has shown double-digit growth for more than a decade, providing market incentives for U.S. farmers across a broad range of products, according to the U.S. Department of Agriculture Economic Research Service. Organic sales account for more than 3 percent of total U.S. food sales, according to recent industry statistics, the USDA-ERS reports. There are 333 operations in Colorado that are listed as certified organic by the USDA National Organic Program. This includes farms, ranches, processors and handlers.

Of Colorado organic operations, 119 produced crops, livestock and poultry totaling more than $70 million in sales in 2011, according to the Certified Organic Production Survey released by USDA in October 2012.

Organic sales account for more than 3 percent of total U.S. food sales, according to the U.S. Department of Agriculture Economic Research Service.

Students may extend their learning with options including composting internships, work at the CSU Horticulture Field Research Center, and involvement in the Student Sustainable Garden, a student-run organic garden on campus.

During a summer course called Diagnostics in Organic Systems, students visited Native Hill Farm of Fort Collins to examine soil fertility, irrigation methods, pests, weeds and crop disease alongside the young producers who run the farm.

The students diagnosed tomato spotted wilt virus in some of the farm’s tomato crop and iris yellow streak virus in some of its irises. Both are spread by thrips, a tiny insect that functions as vector of highly destructive plant pathogens.

Stonaker and Addy Elliott, a faculty member in the Department of Soil and Crop Sciences and co-coordinator of the Organic Agriculture Program, pressed the students to provide solutions. These included use of resistant varieties, screening for use in organic systems, and predatory mites and minutus pirate bugs.

“If you’re providing the best habitat possible for your plants, you shouldn’t have many problems. But it’s hard to get there,” Katie Sota, co-owner of Native Hill Farm, told the students.

“Organic Continued on page 39
A major effort among Colorado State University’s green initiatives—the Compost Program—will mark its second anniversary in April, converting more than half of the total food waste from campus residential dining centers into a rich soil amendment.

By then, the program will have produced an estimated 250,000 pounds, or nearly 125 tons, of nutrient-loaded compost for campus flower beds, gardens and landscaping. Come spring, plants will sprout and bloom on the grounds of the very residence halls where students trashed their food waste, the essential ingredient in CSU compost.

Meanwhile, the Compost Program has provided 10 students from CSU’s College of Agricultural Sciences with hands-on internships and independent study, preparing them for careers in a new era of sustainability. Student compost work is part of CSU’s Organic Agriculture Program, which recently earned a perfect score from a leading industry foundation for its sustainability Program, which recently earned a perfect score from a leading industry foundation for its sustainability Program—will mark its second anniversary in April, converting more than half of the total food waste from campus residential dining centers into a rich soil amendment.

A major effort among Colorado State University’s green initiatives—the Compost Program—will mark its second anniversary in April, converting more than half of the total food waste from campus residential dining centers into a rich soil amendment.

By then, the program will have produced an estimated 250,000 pounds, or nearly 125 tons, of nutrient-loaded compost for campus flower beds, gardens and landscaping. Come spring, plants will sprout and bloom on the grounds of the very residence halls where students trashed their food waste, the essential ingredient in CSU compost.

Meanwhile, the Compost Program has provided 10 students from CSU’s College of Agricultural Sciences with hands-on internships and independent study, preparing them for careers in a new era of sustainability. Student compost work is part of CSU’s Organic Agriculture Program, which recently earned a perfect score from a leading industry foundation for its sustainability Program, which recently earned a perfect score from a leading industry foundation for its sustainability Program, which recently earned a perfect score from a leading industry foundation for its sustainability Program, which recently earned a perfect score from a leading industry foundation for its sustainability Program—will mark its second anniversary in April, converting more than half of the total food waste from campus residential dining centers into a rich soil amendment.

That’s RICH

Students help campus Compost Program thrive

“We have a great team that brings it all together,” said Tonic Miyanoto, lead team member for CSU Housing and Dining Services. “The Compost Program got us into the mode of focusing on food waste and diversion paths. Our work has set the stage for our next step of compost expansion.”

It’s a remarkable achievement for the program that began as a pilot project in April 2011. That’s when Housing and Dining Services invested $140,000 in a fully automated Earth Flow composting system and began operation on the CSU Footbaths Campus.

It took several months of fits and starts—marked by equipment troubles and “recipe” tweaks—for the Compost Program to turn the center and begin running smoothly. So frustrating were those initial months that members of the CSU compost team dubbed their system “Oscar,” a reference to Sesame Street’s famed grocer.

But the program found its groove. Oscar now processes about 10,000 pounds of waste material every week.

In terms of volume, about one-third of the material is food waste from the bustling Braiden Hall and Ram’s Horn residential dining centers on campus. This waste, the compost nitrogen source, is mechanically ground and centrifuged, producing the dense ingredient of food waste, known as “pulp.”

The other two-thirds of the compost starter material, the carbon source, is a mix of hay, straw, wood chips and horse manure from the nearby CSU Equine Center.

CSU Facilities Management hauls waste to the composting system, where students feed Oscar its edible remains—amounting to some 2,000 pounds of waste material every weekday.

“You have to be out here frequently to make it work,” said Alyssa Eckley, fall semester composting intern and organic agriculture student, as she recently added bins of food waste to the system.

Eckley and fellow student Cody Baker, completing an independent study project in composting, watched as a large auger churned through rank muck, contained within the mechanized system known as Oscar, occasionally turning up a pineapple top or another vaguely familiar chunk.

“It’s so gross, but so cool, right?” Elliott enthused.

As Elliott and her students conferred, the compost check-in quickly became a highly technical and scientific discussion about carbon, nitrogen, temperature, aeration and moisture. In about two months, with proper management of these factors, the muck would transform into a dark, crumbly and pleasantly earthy-smelling soil amendment.

“Compost is useful and it’s re-using waste that otherwise would be put in a dump,” Baker said, as he used a temperature probe to check the progress of curing compost. “Learning to compost will allow me to keep my soil-fertility program centered on-farm.”

“The philosophy and practice of organic agriculture revolve around re-use. In an organic system, it’s important to re-use your waste and turn it into something beneficial.”

— Addy Elliott, Department of Soil and Crop Sciences, and CSU “compost queen”
At the start of each fall semester, the College of Agricultural Sciences welcomes freshmen and transfer students to campus with a special daylong orientation called Ram Camp. The program helps new students connect to our academic community — a key to college success. They interact with faculty members, learn about college programs, meet new friends and take part in team-building. Ram Camp is capped with formation of a human “A,” for agriculture, academics and our Ag Family.

Welcome new Rams!
Landscape architecture students at Colorado State University highlighted the value of community open space this fall by participating for the first time in an international design event called PARK(ing) Day.

Four student teams transformed automobile parking spots in Old Town, Fort Collins, into miniature public parks on Sept. 21.

“We’re converting a parking space into a public space,” senior Brandon Parsons explained, as he and teammates put final touches on their design on Laurel Street. The street-side park included containers of rabbitbrush, plum trees and ornamental grasses, along with seats crafted from charred wood, as a reminder of the High Park wildfire that scorched foothills west of Fort Collins last summer.

“The key idea with this installation is the sense of community that draws people together here and helps us move forward. The sense of community is huge in this town,” Parsons said. “We’re also focusing on the value of sustainability, and ways recycled materials can be incorporated into public spaces.”

Judging by responses, passersby approved. “That’s awesome! Wow! Sweet, guys, ” one called out while strolling by. Two drivers honked their horns enthusiastically.

PARK(ing) Day, begun in San Francisco in 2005, draws attention to the vital role of public parks, and the ability of thoughtfully designed public spaces to enrich quality of life in communities worldwide. The little park with wooden pallets, and interpretive materials conveyed the role of these simple skids in sustaining the global economy. The students said they recognize communities aren’t likely to build parks with pallets, yet they wanted to convey a broader concept.

“People will connect with a space if they’re learning something,” Canales said, while hammering together his structure. “The more you can get people to care about a space, the more they will take care of it. As a designer, I’d like to provide a message, not only a place to relax.”

A block away, Stephanie Larsen and her team spread sod over an asphalt parking spot, provided moveable wooden benches under a potted maple tree, and used ornamental grasses and a bicycle rack to screen traffic on Mountain Avenue.

“Park promotes green space in an urban environment,” she explained.

Added teammate Brian Horton: “Combining the two systems – urban and natural – is really cool. It says a lot about what you can do in a city.”

Around the corner on College Avenue, landscape architecture students filled a parking spot with plants, trees and ornamental grasses, along with seats crafted from charred wood, as a reminder of the High Park wildfire that scorched foothills west of Fort Collins last summer.

“PARK(ing) Day encourages people to take part in our community and the civic planning process, and to take your own place and responsibility in that planning process,” said Ben Canales, a CSU landscape architecture major and president of the student group.

Canales and his teammates created a park with wooden pallets, and interpretive materials conveyed the role of these simple skids in sustaining the global economy. The students said they recognize communities aren’t likely to build parks with pallets, yet they wanted to convey a broader concept.

“People will connect with a space if they’re learning something,” Canales said, while hammering together his structure. “The more you can get people to care about a space, the more they will take care of it. As a designer, I’d like to provide a message, not only a place to relax.”

A block away, Stephanie Larsen and her team spread sod over an asphalt parking spot, provided moveable wooden benches under a potted maple tree, and used ornamental grasses and a bicycle rack to screen traffic on Mountain Avenue.

“Park promotes green space in an urban environment,” she explained.

Added teammate Brian Horton: “Combining the two systems – urban and natural – is really cool. It says a lot about what you can do in a city.”

Around the corner on College Avenue, landscape architecture students filled a parking spot with plants,
Meat Mastery
Team wins national championship in Meat Science Quiz Bowl

Dan Shubert and Will Callis perched on stools in the commercial kitchen of the Colorado State University Animal Sciences Building and assessed a flat iron steak. It’s a trendy cut of beef, popping up rubbed and seared in recent years at upscale restaurants, in online recipes, and with celebrity chefs. That’s because the flat iron steak is tender, flavorful, and typically costs half as much per pound as prime boneless ribeye.

Shubert and Callis know these attributes, which make the flat iron a foodie favorite. They also know the scientific backstory: This steak is from the infraspinatus muscles of the beef chuck. In isolating the cut by muscle characteristics, meat scientists have transformed the lowly chuck from subprime pot roast into steak that appeals to epicures – and boosts profit potential for the food industry.

Such knowledge helped Shubert, Callis and six fellow CSU students claim the national title in the annual Meat Science Quiz Bowl in June. To become national champions, the CSU group bested 29 other squads from 19 universities across the country during the American Meat Science Association’s professional conference at North Dakota State University.

It’s the first time the CSU Meat Science Quiz Bowl team has earned a national championship in 11 years of competition. To win, the group beat a team from the University of Nebraska in a tenth round of questioning with a live audience of industry leaders.

“We’re very proud of these bright students for successful teamwork that put their learning to use for a first-time national championship,” said Kevin Pond, head of the CSU Department of Animal Sciences. “This win reflects overall excellence in CSU’s meat science program and adds to our recent reserve national championships in meat judging and meat animal evaluation.”

The national Meat Science Quiz Bowl uses a “Jeopardy!” format, with answers signaled by buzzers. But for student competitors, it’s no mere trivia contest.

“Competing has helped me understand the science behind the product we’re making,” said Shubert, an animal science major who will coach the next team. “Our work is meant to improve quality for consumers. In the end, providing them with a safe, wholesome, reasonably affordable protein is the name of the game.”

Knowledge needed for winning the national title also gives these Animal Sciences students the confidence to interact with meat-industry executives, they said.

“Through the team, I have a very good background in animal science and meat science. That gives me a much more complete understanding of the business,” said Callis, who graduated in May with dual degrees in animal science and agricultural economics.

Talk about a complete understanding. The CSU Meat Science Quiz Bowl team can explain the chemical processes that trigger color changes and impact meat flavor, turning a steak from top pick to manager’s special.

“Team members can rattle off the most significant federal laws and guidelines of past decades – from the Meat Inspection Act of 1906, partly sparked by Upton Sinclair’s “The Jungle,” to the sweeping food-safety management system known

Judging teams amass championships
Students in the CSU Department of Animal Sciences scored other major wins during the recent academic year:
• National Champion 2011 Arabian Horse Judging Team
• Reserve National Champion 2011 Meat Judging Team
• Reserve National Champion 2012 APHA Horse Judging Team
• Reserve National Champion 2012 Meat Animal Evaluation Team

New team assesses animal welfare
The CSU Department of Animal Sciences has launched a new Animal Welfare Judging Team. Students on the team assess the well-being of food and research animals and present oral reasons to judges. Each competition year has a new four-prong focus. This year’s contests assess companion animals in veterinary clinics, laying hens,veal calves, and laboratory mice. Doctoral student Chelsea Shively is leading the team. She is advised by Temple Grandin, CSU’s renowned expert in farm-animal welfare.

“arbion冠军 2011
Translational Animal Science”

MEAT Continued on page 29

www.Agsci.colostate.edu
College of Agricultural Sciences
Catering students have close encounter with Obama during visit

You might say Animal Sciences student Maggie Weinroth met the president over a steak dinner in Fort Collins.

Shortly before President Barack Obama was scheduled to speak at an Aug. 28 campaign rally on campus, Weinroth was helping a hot tray of three dozen medium-rare ribeye steaks through the CSU Animal Sciences Building. She was helping to feed members of the Secret Service, national media pool and White House staff.

That’s when the president hustled through the building with his security detail and aides, stopping a stunned Weinroth — still gripping the tray of steaks — as she and another student watched Obama stride by.

“I was carrying steaks and wasn’t aware he would be coming through. It was a surreal experience to be within a few feet of the president of the United States,” Weinroth, a junior studying animal science, recalled of the close encounter. “We were working, and we figured we weren’t going to be able to see him speak. We were not expecting him to be in such close proximity, so it was really, really cool.”

The Obama rally marked the first visit to Fort Collins by a sitting U.S. president and drew 13,000 people to the Monfort Quad just outside the CSU Animal Sciences Building. The stop was part of a campaign tour of college campuses nationwide.

As the crowd gathered at CSU, Weinroth and other student members of the CSU Meat Judging Team and Meat Science Quiz Bowl Team assembled for a different reason. They catered dinner for 65 campus guests, including national news reporters, White House staffers and Secret Service agents traveling with the president. The students prepared and served grilled ribeyes, roasted potatoes, green beans, salad and dinner rolls.

The president did not dine with other visitors in the Animal Sciences Building, nor did he meet the student catering crew as he walked through the building en route to the rally stage. Yet the meal and the students drew wide reviews.

“Your team did such a fantastic job yesterday!” a rally organizer wrote in a thank-you email. “The students were professional and on time. I am packing up the President’s traveling pool now . . . and they are continuing to praise and talk about the food, especially the steaks! I’ve done a lot of these, and I’ve never ever heard the press talk so much about the catering.”

The eight students who catered at the political rally didn’t have an audience with the president. But preparing a meal for his posse was plenty fun. And the two who unexpectedly encountered President Obama have a college moment to remember.

“I was with Maggie carrying a bowl of butter for the dinner rolls, and we saw him in transit. We were like, ‘Was that really the president?’ It was a pretty unique experience,” said Jenna Oxenhandler, a junior on the Meat Judging Team.

“I definitely called my mom after that.”

Catering raises money for student teams. It follows that students on our meats teams raise money for competition by grilling meat.

Members of the Meat Judging Team and Meat Science Quiz Bowl Team work for a campus catering outfit overseen by the CSU Center for Meat Safety and Quality.

The catering group prepares full meals for clients, but its specialty is meat — namely, steak, prime rib, hamburgers, smoked brisket and smoked pulled pork.

The group annually caters about 30 campus events, which may draw from 10 to 750 diners.

Earnings cover costs of competition for the two teams. These costs total nearly $40,000 each year for about 25 undergraduate students, and come in the form of travel, lodging and other expenses incurred for top-tar competition.

Yet the catering experience is more than a simple fund-raising tool; it allows students to practice critical concepts, such as food safety, and to interact with consumers.

“Our entire program benefits by providing students with exposure to the last step in the production chain. They gain deeper understanding of the industry,” said Dale Woerner, assistant professor in the Department of Animal Sciences and faculty adviser to the teams. Woerner is a meat scientist who oversees the catering venture.

Plus, students who help with catering learn to cook a heck of a steak.

They can explain how the longissimus dorsi and gluteus medius muscles visible in a strip steak indicate its location in the beef carcass and its tenderness and flavor attributes.

The students said they hope wide-ranging knowledge of industry history, meat quality, food safety, animal physiology, and livestock growth and development will help them pursue science-based careers in agriculture.

In fact, they’re well on their way: Shubert had a summer internship in the research and development group of chicken producer Pilgrim’s; teammate Barbara Davis helped to conduct a feed study at a large pig farm run by Seaboard Foods; and Callis is beginning graduate studies in beef economics.

“Quiz Bowl has allowed me to see another aspect of livestock and how their bodies work. It gave me insight into how different feeds can affect an animal throughout its life,” said Davis, a junior who wants to pursue a career in swine nutrition. “It’s also been a great way to make connections that will help me in the future.”

Other members of the 2012 CSU Meat Science Quiz Bowl team were: Chloe Goodwin, Lauren Jacobson, Megan Myers, Jenna Oxenhandler and Megan Smelter. Scott Howard, a doctoral student, coached the team.

MEAT Continued from page 26


The group annually caters about 30 campus events, which may draw from 10 to 750 diners.

Earnings cover costs of competition for the two teams. These costs total nearly $40,000 each year for about 25 undergraduate students, and come in the form of travel, lodging and other expenses incurred for top-tar competition.

Yet the catering experience is more than a simple fund-raising tool; it allows students to practice critical concepts, such as food safety, and to interact with consumers.

“Our entire program benefits by providing students with exposure to the last step in the production chain. They gain deeper understanding of the industry,” said Dale Woerner, assistant professor in the Department of Animal Sciences and faculty adviser to the teams. Woerner is a meat scientist who oversees the catering venture.

Plus, students who help with catering learn to cook a heck of a steak.

They can explain how the longissimus dorsi and gluteus medius muscles visible in a strip steak indicate its location in the beef carcass and its tenderness and flavor attributes.

The students said they hope wide-ranging knowledge of industry history, meat quality, food safety, animal physiology, and livestock growth and development will help them pursue science-based careers in agriculture.

In fact, they’re well on their way: Shubert had a summer internship in the research and development group of chicken producer Pilgrim’s; teammate Barbara Davis helped to conduct a feed study at a large pig farm run by Seaboard Foods; and Callis is beginning graduate studies in beef economics.

“Quiz Bowl has allowed me to see another aspect of livestock and how their bodies work. It gave me insight into how different feeds can affect an animal throughout its life,” said Davis, a junior who wants to pursue a career in swine nutrition. “It’s also been a great way to make connections that will help me in the future.”

Other members of the 2012 CSU Meat Science Quiz Bowl team were: Chloe Goodwin, Lauren Jacobson, Megan Myers, Jenna Oxenhandler and Megan Smelter. Scott Howard, a doctoral student, coached the team.

MEAT Continued from page 26


The group annually caters about 30 campus events, which may draw from 10 to 750 diners.

Earnings cover costs of competition for the two teams. These costs total nearly $40,000 each year for about 25 undergraduate students, and come in the form of travel, lodging and other expenses incurred for top-tar competition.

Yet the catering experience is more than a simple fund-raising tool; it allows students to practice critical concepts, such as food safety, and to interact with consumers.

“Our entire program benefits by providing students with exposure to the last step in the production chain. They gain deeper understanding of the industry,” said Dale Woerner, assistant professor in the Department of Animal Sciences and faculty adviser to the teams. Woerner is a meat scientist who oversees the catering venture.

Plus, students who help with catering learn to cook a heck of a steak.

They can explain how the longissimus dorsi and gluteus medius muscles visible in a strip steak indicate its location in the beef carcass and its tenderness and flavor attributes.

The students said they hope wide-ranging knowledge of industry history, meat quality, food safety, animal physiology, and livestock growth and development will help them pursue science-based careers in agriculture.

In fact, they’re well on their way: Shubert had a summer internship in the research and development group of chicken producer Pilgrim’s; teammate Barbara Davis helped to conduct a feed study at a large pig farm run by Seaboard Foods; and Callis is beginning graduate studies in beef economics.

“Quiz Bowl has allowed me to see another aspect of livestock and how their bodies work. It gave me insight into how different feeds can affect an animal throughout its life,” said Davis, a junior who wants to pursue a career in swine nutrition. “It’s also been a great way to make connections that will help me in the future.”

Other members of the 2012 CSU Meat Science Quiz Bowl team were: Chloe Goodwin, Lauren Jacobson, Megan Myers, Jenna Oxenhandler and Megan Smelter. Scott Howard, a doctoral student, coached the team.
In 1936, when he was 15 years old, Johnny Matsushima raised his first Hereford steer as a 4-H project and showed it at the Weld County Fair in Greeley alongside a 4-H rival named Kenny Monfort. Monfort, who would become a Colorado beef mogul, had the grand champion steer at the fair that year. But the diminutive Matsushima – an inquisitive boy dwarfed even by the short cattle of Colorado – had an idea.

As feedlots were expanding across the state and beef was a big issue in many countries, and beef is the choice of animal protein. "We thought enough of it that we changed our whole feeding program," Monfort said of Matsushima’s new, flaky rations. "It’s cut down the number of days we have to feed an animal, and we get better conversions of feed to beef. We ran some tests, then we built a plant to make the flaked feed, designing it, mainly, just by listening to Johnny."

"Efficiency has never been more important than it is today," said Randy Mach, a former Matsushima student and executive vice president of CattleFax, which provides industry analysis. "The technology he developed 50 years ago has more value today than ever before. That’s phenomenal."

"We thought enough of it that we changed our whole feeding program," Monfort said of Matsushima’s new, flaky rations. "It’s cut down the number of days we have to feed an animal, and we get better conversions of feed to beef. We ran some tests, then we built a plant to make the flaked feed, designing it, mainly, just by listening to Johnny."

"He’s one of the pioneers who started developing modern cattle-feeding procedures," said Paul Clayton, senior vice president for export services with the U.S. Meat Export Federation and another former student. "Innovation was one of the things we were really pressed to work on at CSU. He motivated us to think about problems in a different way."

Matsushima recently visited the Kuner Feedlot, a 100,000-head feedyard established by Monfort of Colorado east of Greeley in 1974, it is now owned by JBS Five Rivers Cattle Feeding. A pen of Angus-crossbred cattle watched as Matsushima sopped up a handful of feed from the bunk and examined the mix of flaked corn and bits of silage, distillers grain and molasses-based supplement.

"It hasn’t changed much," he noted to Kallen Moore, a young feeds professional who oversees feeding at the Kuner Feedlot.

"He’s one of the pioneers who started developing modern cattle-feeding procedures," said Paul Clayton, senior vice president for export services with the U.S. Meat Export Federation and another former student. "Innovation was one of the things we were really pressed to work on at CSU. He motivated us to think about problems in a different way."

Matsushima recently visited the Kuner Feedlot, a 100,000-head feedyard established by Monfort of Colorado east of Greeley in 1974, it is now owned by JBS Five Rivers Cattle Feeding. A pen of Angus-crossbred cattle watched as Matsushima sopped up a handful of feed from the bunk and examined the mix of flaked corn and bits of silage, distillers grain and molasses-based supplement.

"It hasn’t changed much," he noted to Kallen Moore, a young feeds professional who oversees feeding at the Kuner Feedlot.

"He’s one of the pioneers who started developing modern cattle-feeding procedures," said Paul Clayton, senior vice president for export services with the U.S. Meat Export Federation and another former student. "Innovation was one of the things we were really pressed to work on at CSU. He motivated us to think about problems in a different way."

Matsushima recently visited the Kuner Feedlot, a 100,000-head feedyard established by Monfort of Colorado east of Greeley in 1974, it is now owned by JBS Five Rivers Cattle Feeding. A pen of Angus-crossbred cattle watched as Matsushima sopped up a handful of feed from the bunk and examined the mix of flaked corn and bits of silage, distillers grain and molasses-based supplement.

"It hasn’t changed much," he noted to Kallen Moore, a young feeds professional who oversees feeding at the Kuner Feedlot. The yard was a familiar stop for Matsushima during the 1960s, ’70s and ’80s, as he worked with large feeders to perfect research discoveries for practical industry application.

"This was a laboratory, definitely," Matsushima said, gazing across the pens, with Limo Peak rising to the west. "It was also able to take the information I learned here to other parts of the world. After all, food is a big issue in many countries, and beef is the choice of animal protein.”

Moore laughed when discussing the complexities of modern rations. "Sometimes we thank you, and sometimes we cuss you. But either way, you changed everything," he told Matsushima.

It was a long way from Matsushima’s beginning to the Kuner Feedlot. The yard was a familiar stop for Matsushima during the 1960s, ’70s and ’80s, as he worked with large feeders to perfect research discoveries for practical industry application.

"This was a laboratory, definitely," Matsushima said, gazing across the pens, with Limo Peak rising to the west. "It was also able to take the information I learned here to other parts of the world. After all, food is a big issue in many countries, and beef is the choice of animal protein.”

Moore laughed when discussing the complexities of modern rations. "Sometimes we thank you, and sometimes we cuss you. But either way, you changed everything," he told Matsushima.

It was a long way from Matsushima’s beginning to the standing as an industry pioneer. He credits his early experiences in beef nutrition helped drive the arc of Monfort’s own career as a captain of the nation’s cattle feeding and packing industry.

"I don’t think Colorado would be a top-five cattle feeding state if it weren’t for Johnny’s work,” said Daryl Tatum, a professor in CSU’s Department of Animal Sciences, who is among those carrying Matsushima’s torch in understanding links between nutrition and meat quality. "Johnny did as much as anybody in teaching and research to pinpointing technologies and rations that increased profitability, so the things he brought the industry have become more and more valuable over time.”

The late Kenny Monfort, an early adopter of the technology, joked that he flaked more corn than Kellogg’s at his feedlots.

"His standing as an industry pioneer. He credits his early experiences in beef nutrition helped drive the arc of Monfort’s own career as a captain of the nation’s cattle feeding and packing industry."

"I don’t think Colorado would be a top-five cattle feeding state if it weren’t for Johnny’s work,” said Daryl Tatum, a professor in CSU’s Department of Animal Sciences, who is among those carrying Matsushima’s torch in understanding links between nutrition and meat quality. "Johnny did as much as anybody in teaching and research to pinpointing technologies and rations that increased profitability, so the things he brought the industry have become more and more valuable over time.”

The late Kenny Monfort, an early adopter of the technology, joked that he flaked more corn than Kellogg’s at his feedlots.
Matsushima graduated as valedictorian of his class at Platteville High School.

John Matsushima, whose given name is Kiichiro, was born in 1945, then was recruited to the University of Colorado State University.

He advanced to officer positions in FFA and 4-H, finding in beef-cattle nutrition got the attention of beef nutrition.

Local grocery stores hung signs ordering that "Japs Stay Out." Matsushima and his roommates, also Japanese-American, couldn't buy food. So a fellow member of the livestock judging team bought their groceries and delivered them to Matsushima's basement apartment in the dark of night. Matsushima was banned from a Fort Collins movie theater while out with the judging team, was refused a lift home in a snowstorm, and was denied entry to a movie theater.

Matsushima's reputation expanded over the years, he became a seminal figure in opening Japan as a market for U.S. beef exports. Central to his rise were his technical knowledge, cultural proficiency and language skills, which he had improved with childhood lessons at Japanese summer school.

"Dr. Matsushima's heritage was a big benefit," Clayton, of the U.S. Meat Export Federation, observed. "The fact that he was able to get markets to open and give the U.S. the ability to have access to foreign markets is very big, and getting those markets open was very, very difficult. That's a milestone of his career."

His crowning achievement was earning the Japanese Emperor Citation, or "Tenno Hosho," presented in 2009 by Emperor Akihito at the Imperial Palace in Tokyo. Matsushima was honored for promoting quality beef in Japan, for pioneering steam flaking of corn, and for teaching some 10,000 animal science students at three universities. The award typically is given only to national dignitaries and corporate leaders.

It was "perhaps the happiest day of my life," Matsushima writes in his autobiography.

Matsushima worked closely with Japanese officials to open that country and other Asian markets to U.S. beef exports in the 1980s. This meant developing guidelines for import and export, and addressing knotty legal, economic and food-safety issues.

Matsushima worked for nearly two years, patching them with cardboard and making do with what they could find.

Matsushima wrote in his autobiography, "It was a struggle financially. Matsushima worked by trapping and skinning muskrats, then selling the pelts for up to $2 each. He used some of the money to buy dairy calves, which he raised and sold for more profit."

As Matsushima's reputation expanded over the years, he became a seminal figure in opening Japan as a market for U.S. beef exports. Central to his rise were his technical knowledge, cultural proficiency and language skills, which he had improved with childhood lessons at Japanese summer school.

"Dr. Matsushima's heritage was a big benefit," Clayton, of the U.S. Meat Export Federation, observed. "The fact that he was able to get markets to open and give the U.S. the ability to have access to foreign markets is very big, and getting those markets open was very, very difficult. That's a milestone of his career."

His crowning achievement was earning the Japanese Emperor Citation, or “Tenno Hosho,” presented in 2009 by Emperor Akihito at the Imperial Palace in Tokyo. Matsushima was honored for promoting quality beef in Japan, for pioneering steam flaking of corn, and for teaching some 10,000 animal science students at three universities. The award typically is given only to national dignitaries and corporate leaders.

It was “perhaps the happiest day of my life,” Matsushima writes in his autobiography.

Matsushima wrote in his autobiography, “It was a struggle financially. Matsushima worked by trapping and skinning muskrats, then selling the pelts for up to $2 each. He used some of the money to buy dairy calves, which he raised and sold for more profit.”

As Matsushima’s reputation expanded over the years, he became a seminal figure in opening Japan as a market for U.S. beef exports. Central to his rise were his technical knowledge, cultural proficiency and language skills, which he had improved with childhood lessons at Japanese summer school.

“Dr. Matsushima’s heritage was a big benefit,” Clayton, of the U.S. Meat Export Federation, observed. “The fact that he was able to get markets to open and give the U.S. the ability to have access to foreign markets is very big, and getting those markets open was very, very difficult. That’s a milestone of his career.”

His crowning achievement was earning the Japanese Emperor Citation, or “Tenno Hosho,” presented in 2009 by Emperor Akihito at the Imperial Palace in Tokyo. Matsushima was honored for promoting quality beef in Japan, for pioneering steam flaking of corn, and for teaching some 10,000 animal science students at three universities. The award typically is given only to national dignitaries and corporate leaders.

It was “perhaps the happiest day of my life,” Matsushima writes in his autobiography.
Vaughn Cook, an expert in equine reproduction and owner of Royal Vista Equine in Fort Collins, received the 2012 Honor Alumnus Award from the College of Agricultural Sciences in early October for his contributions to the college, its students, and the horse industry.

Vaughn Cook, 2012 Honor Alumnus Award winner from the College of Agricultural Sciences, is an expert in equine reproduction and a leader in the horse industry. He and his wife, Jill, a CSU veterinary alumnus, own Royal Vista Equine and Royal Vista Ranches.

“Making strides in the Horse Industry”

by Beth Etter

He has helped advance the state of the art of equine reproduction.

— Gary Carpenter, CSU Equine Sciences Program

Vaughn’s encouragement, support, and enacting standards have influenced the careers of countless CSU graduates, and he has been a key factor in placing them throughout the industry,” said Gary Carpenter, industry outreach and liaison director for the college’s renowned Equine Sciences Program.

“Through his expertise, knowledge, and rare insight as a horseman and businessman — and his affiliation with research and science — he has helped to advance the state of the art of equine reproduction and equine research for the benefit of the horse and the industry,” Carpenter said.

Cook received his award at Colorado State University’s annual Distinguished Alumni Awards Dinner and Program on Oct. 4. The CSU Alumni Association hosted the program at the start of homecoming weekend.

Cook, who was raised on a Thoroughbred racing farm in southeastern Colorado, graduated in 1974 with a bachelor’s degree in animal science. Since then, he has helped to advance cutting-edge equine reproductive technologies, has ascended to notable leadership positions in the horse industry, and has worked closely with CSU and its students.

After graduating, Cook started work at CSU’s Equine Reproduction Laboratory, eventually collaborating on the lab’s landmark research projects in equine reproduction and embryo transfer.

B.W. Pickett, former director of the Equine Reproduction Laboratory, and Dr. James L. Voss, former dean of the CSU College of Veterinary Medicine and Biomedical Sciences, started a stallion reproduction consulting service; Cook traveled with them across the country, handling top-stallions from all breeds. He ultimately managed the lab’s clinical embryo transfer service, bringing it national acclaim.

In 1992, Cook left the Equine Reproduction Laboratory, and he and his wife, Jill, a CSU veterinary graduate, began running Fossil Creek Equine Services.

The Cooks then established Royal Vista Equine, a breeding management company, which has gained national prominence as a premier embryo transfer facility.

The Cooks also founded a Quarter Horse racing breeding facility, Royal Vista Ranches, in Wayne, Okla. The stallion lineup at Royal Vista Ranches has included such champions as Wave Carver and Ivory James. The Cooks have also raised and owned several Quarter Horse graded stakes-winning homebreds; at the top of the list is 2006 AQHA World Champion Quarter Running Horse Wave Carver, who they co-own.

In addition to his successful business operations, Cook has been involved professionally in the horse industry at the state and national levels.

He is the American Quarter Horse Association director for Colorado and has served on several national committees, including AQHA’s stallion book and registration committee and the research committee.

He is a Rocky Mountain Quarter Horse Association past president and a director of the Colorado Horseman’s Association.

Cook credits his success to his wife, hard work, and a close association with CSU and its graduates. Virtually all of the Cooks’ employees have been CSU alumni, or have gained work experience at the university. He also is a proud father of his daughters, Brandi, Shannon, Bailey, and Jamie.

“Jill and I, as a pair, we succeeded,” Cook said.

“I owe a lot to her, to Dr. Pickett, and to the CSU Equine Reproduction Laboratory.”

2012 DISTINGUISHED ALUMNI AWARDS

Dennis Repp, who earned a bachelor’s degree in agricultural business in 1960, received the 2012 William E. Morgan Alumni Achievement Award from the CSU Alumni Association. After graduating from CSU and completing two advanced degrees, Repp built a remarkable career in business and finance.

He managed venture capital operations for Allstate Insurance, and later founded businesses with innovations in technology and biotechnology. With his successful ventures, Repp has become a philanthropist focusing on poverty, education, and the needs of wounded military veterans.

Milan Rewerts, a longtime friend of the College of Agricultural Sciences, received the Distinguished Extension Award from the CSU Alumni Association. Rewerts, who earned a master’s degree in 1974, worked for CSU Extension for nearly 40 years before retiring in 2005.

Rewerts was director of CSU Cooperative Extension during the last decade of his career. He worked with several regional and national Extension and agricultural leadership groups, including serving as chair of the Western Regional Extension Directors. Rewerts has received many honors, including the Distinguished Service Award from the National Association of Extension 4-H Agents.

He also is a decorated retired colonel of the U.S. Army Reserve.

“Making strides in the Horse Industry”

by Beth Etter

He has helped advance the state of the art of equine reproduction.

— Gary Carpenter, CSU Equine Sciences Program

Vaughn’s encouragement, support, and enacting standards have influenced the careers of countless CSU graduates, and he has been a key factor in placing them throughout the industry,” said Gary Carpenter, industry outreach and liaison director for the college’s renowned Equine Sciences Program.

“Through his expertise, knowledge, and rare insight as a horseman and businessman — and his affiliation with research and science – he has helped to advance the state of the art of equine reproduction and equine research for the benefit of the horse and the industry,” Carpenter said.

Cook received his award at Colorado State University’s annual Distinguished Alumni Awards Dinner and Program on Oct. 4. The CSU Alumni Association hosted the program at the start of homecoming weekend.

Cook, who was raised on a Thoroughbred racing farm in southeastern Colorado, graduated in 1974 with a bachelor’s degree in animal science. Since then, he has helped to advance cutting-edge equine reproductive technologies, has ascended to notable leadership positions in the horse industry, and has worked closely with CSU and its students.

After graduating, Cook started work at CSU’s Equine Reproduction Laboratory, eventually collaborating on the lab’s landmark research projects in equine reproduction and embryo transfer.

B.W. Pickett, former director of the Equine Reproduction Laboratory, and Dr. James L. Voss, former dean of the CSU College of Veterinary Medicine and Biomedical Sciences, started a stallion reproduction consulting service; Cook traveled with them across the country, handling top-stallions from all breeds. He ultimately managed the lab’s clinical embryo transfer service, bringing it national acclaim.

In 1992, Cook left the Equine Reproduction Laboratory, and he and his wife, Jill, a CSU veterinary graduate, began running Fossil Creek Equine Services.

The Cooks then established Royal Vista Equine, a breeding management company, which has gained national prominence as a premier embryo transfer facility.

The Cooks also founded a Quarter Horse racing breeding facility, Royal Vista Ranches, in Wayne, Okla. The stallion lineup at Royal Vista Ranches has included such champions as Wave Carver and Ivory James. The Cooks have also raised and owned several Quarter Horse graded stakes-winning homebreds; at the top of the list is 2006 AQHA World Champion Quarter Running Horse Wave Carver, who they co-own.

In addition to his successful business operations, Cook has been involved professionally in the horse industry at the state and national levels.

He is the American Quarter Horse Association director for Colorado and has served on several national committees, including AQHA’s stallion book and registration committee and the research committee.

He is a Rocky Mountain Quarter Horse Association past president and a director of the Colorado Horseman’s Association.

Cook credits his success to his wife, hard work, and a close association with CSU and its graduates. Virtually all of the Cooks’ employees have been CSU alumni, or have gained work experience at the university. He also is a proud father of his daughters, Brandi, Shannon, Bailey, and Jamie.

“Jill and I, as a pair, we succeeded,” Cook said.

“I owe a lot to her, to Dr. Pickett, and to the CSU Equine Reproduction Laboratory.”

2012 DISTINGUISHED ALUMNI AWARDS

Dennis Repp, who earned a bachelor’s degree in agricultural business in 1960, received the 2012 William E. Morgan Alumni Achievement Award from the CSU Alumni Association. After graduating from CSU and completing two advanced degrees, Repp built a remarkable career in business and finance.

He managed venture capital operations for Allstate Insurance, and later founded businesses with innovations in technology and biotechnology. With his successful ventures, Repp has become a philanthropist focusing on poverty, education, and the needs of wounded military veterans.

Milan Rewerts, a longtime friend of the College of Agricultural Sciences, received the Distinguished Extension Award from the CSU Alumni Association. Rewerts, who earned a master’s degree in 1974, worked for CSU Extension for nearly 40 years before retiring in 2005.

Rewerts was director of CSU Cooperative Extension during the last decade of his career. He worked with several regional and national Extension and agricultural leadership groups, including serving as chair of the Western Regional Extension Directors. Rewerts has received many honors, including the Distinguished Service Award from the National Association of Extension 4-H Agents.

He also is a decorated retired colonel of the U.S. Army Reserve.
"It's been a dream since I watched Silver Charm race in the Kentucky Derby." — Caroline Kamer, '09

Charmed, for SURE

Equine graduate lands first job in marketing for Churchill Downs

Like many of our students, Caroline Kamer did not grow up on a farm or ranch. But she did grow up in Louisville, Ky., home of Churchill Downs and the Kentucky Derby. Kamer developed a love for horses and started English riding lessons at age 5. She later showed American Saddlebreds, a breed developed in Kentucky. Kamer also became a racing enthusiast and was smitten with Silver Charm, a legendary gray Thoroughbred who won the 1997 Kentucky Derby and the Preakness Stakes in the Triple Crown. Little did the young horse lover know that Silver Charm would lead her to enroll in the Colorado State University Equine Sciences Program — and on to an amazing first job at Churchill Downs. While visiting campus last summer, Kamer, 26, sat down with Food for Thought editor Coleman Cornelius to discuss her uphill career.

Food for Thought: You grew up across the country in Louisville, Kentucky, so what drew you to majoring in equine science at CSU?

CK: Because of my love for Silver Charm and racing, in high school I had the opportunity to tour Three Chimneys Farm in Midway, Kentucky. Silver Charm had retired to stud there. I was talking to a stallion manager, and I asked, ‘Where do you hire the most people from?’ She said, ‘Colorado State University.’ Their equestrian program is great! I started looking at it and fell in love. My family always came out to Colorado to ski. I already loved the state, and I came out for a visit my junior year, and I was like, ‘This is the place I want to be.’ It’s funny how Silver Charm linked it all in.

FFT: So you were charmed by Silver Charm, and then you were charmed by Colorado and CSU. But why did you decide to major in equine science, rather than some other discipline?

CK: I just knew that I couldn’t have a job that didn’t involve horses. So whether that be business, or marketing, or actually working in the barns, I just knew it had to revolve around the horse to make me happy for a lifelong career. After searching and finding out more about CSU, I just thought it would be great. There were so many business classes involved that I knew it would be a well-rounded degree, and definitely the best in the nation.

FFT: How did you wind up working at Churchill Downs?

CK: During the summer between my freshman and sophomore years at CSU, I worked on the backside at Churchill Downs, in the barns. I found out that a woman I had ridden Saddlebreds with was working in the Brand Development and Marketing Department. The next summer, I reached out to her and asked for a networking interview, and she said, ‘Absolutely!’ I kept in touch with her, then she reached out to me probably six months after I graduated from CSU and said, ‘Hey we have an opening for a seasonal employee. Are you interested?’ So the very next day I had an interview with the entire team, and I was lucky enough to get the position. It really taught me the importance of reaching out. Don’t be scared; it’s OK to network. Most people are happy to speak with you.

FFT: For people who are not in communications, explain what it means to be a brand development and marketing coordinator.

CK: Sure. Not only do we carry out marketing for all the events at Churchill Downs — including the Kentucky Derby and Kentucky Oaks — we also develop new products and strategies to extend the reach of our brands and marketing. I play a large role in rebranding and creating new strategies for all of our websites, which includes churchilldowns.com, kentuckyderby.com and kentuckyoaks.com. I also took over our social media. We call our fans Derby Nation, so it’s Derby year round. It was very cool taking that over at over 55,000 fans, and today it’s over 220,000 fans. I developed our strategy with Twitter, and developed our mobile applications for iPhone and Android, for both Churchill Downs and the Kentucky Derby. My team supports all the different departments, and we’re always developing something new.

FFT: You started down this career path because of your love for horses and horse racing. Now you are truly in communications — and fairly technical communications, or that — so your expertise has gone down another path. How are the two fields linked for you?

CK: One thing I realized, even working at Churchill Downs, is 98 percent of people don’t know anything about a horse. So I became very valued because I do have that knowledge. I do know how to make information both understandable and accurate for horsemen and our core horse player, as well as for the horse enthusiast and the entertainment fan. All our fans are horse enthusiasts. That’s the common bond, and that’s where I think I bring a lot to the table.

FFT: In what ways do you think your degree in equine science and your minor in business administration prepared you for your job?

CK: My classes — from Intro to Equine Science, Equine Reproduction and Equine Disease Management — gave me the background to answer a lot of fan questions without even having to look it up. I can answer clearly and concisely and make it understandable to the fan. That’s been essential. The business classes were also great — Marketing, Management, Entrepreneurship — and gave me a strong base for this job. So it’s a really well-rounded degree. I feel like I left CSU with a lot of flexibility.

FFT: In what degree are you drawn into industry and national debates regarding racehorse health and scandals over drug use, and how do you address those issues in your role?

CK: I’m very tuned in to it. I feel like if I’m going to educate our fans through social media platforms, I need to be. A lot of people ask, ‘Why would a horse even be on bute?’ (the anti-inflammatory drug phenylbutazone). So I need to be able to explain things clearly, and also represent the company the way I need to.

FFT: What has been the most fun aspect of your job at Churchill Downs?

CK: I am in charge of the Kentucky Oaks Survivors Parade, a parade for ladies who have survived cancer. The Kentucky Oaks, as a race for fillies, is a day to celebrate women, and the Survivors Parade is on the track right before the race. There’s a lot of coordination, and it’s really rewarding. Also, as a horse fan, it’s great just getting so close to the athletes. I’ll wake up early and go see the workouts of the Derby horses before work. Just being close to these amazing horses has been a dream come true for me.

FFT: What is a place to work as a person in the horse industry? Congratulations to you.

CK: Thank you. It’s been a dream since I watched Silver Charm race in the Kentucky Derby and saw the Twin Spires at Churchill Downs. I’m the only person on my team who goes back to work to watch the races. This is where I want to be, even on my day off. I just love it through and through.

Connect with your dream career

The Career Services office in the College of Agricultural Sciences helps students identify career interests, connect with potential employers, apply for jobs, and successfully land jobs in their chosen career fields. The office organizes career fairs and resume reviews. Services are free. Contact Career Center Liaison Beka Crockett at beka.crockett@colostate.edu or (970) 491-3721.

Caroline Kamer
Graduated: 2009, bachelor’s degree, equine science; minor, business administration.
First Job: Brand Development & Marketing Coordinator, Kentucky Derby

www.agsci.colostate.edu
These days, it surprises me to see people who don’t understand agriculture and who don’t realize how different their lives would be without it. From the time we awake in the morning, we’re using agricultural products.

Some people think agriculture is just growing crops, but it’s so much more. It’s what allows us to use the food we buy at the grocery store. It’s what allows us to use the clothes we wear, the furniture we sit on, the paper we use to write on and the water we drink. It’s what allows us to drive our cars and it’s what allows us to enjoy the outdoors.

Agriculture is the heart of everything, our heritage, our soul and our being. It is the foundation of our economy and it is the foundation of our food system. It is the foundation of our society. It is the foundation of our culture. It is the foundation of our way of life.

Agriculture is the heart of everything, our heritage, our soul and our being. It is the foundation of our economy and it is the foundation of our food system. It is the foundation of our society. It is the foundation of our culture. It is the foundation of our way of life.

Agriculture is the heart of everything, our heritage, our soul and our being. It is the foundation of our economy and it is the foundation of our food system. It is the foundation of our society. It is the foundation of our culture. It is the foundation of our way of life.

Agriculture is the heart of everything, our heritage, our soul and our being. It is the foundation of our economy and it is the foundation of our food system. It is the foundation of our society. It is the foundation of our culture. It is the foundation of our way of life.

Agriculture is the heart of everything, our heritage, our soul and our being. It is the foundation of our economy and it is the foundation of our food system. It is the foundation of our society. It is the foundation of our culture. It is the foundation of our way of life.
Harvey Achterg, who received a bachelor’s degree in agricultural sciences in 1954, was inducted into the CSU Sports Hall of Fame at a banquet on Oct. 26. Achterg, who lives near Columbus, S.C., was a three-year starter at offensive tackle. He was a two-time All Conference player, a first-team All Americans, and played for a year with the Philadelphia Eagles in the NFL.

Thomas Adair, who earned a master’s degree in forensic entomology in 2004, has published a thriller titled, “The Scent of Fear,” inspired by his 15-year career as an investigator with the Westminster Police Department and Arapahoe County Sheriff’s Office. Adair has been board certified as a senior crime scene analyst, and is an expert in bloodstain pattern analysis and forensic examination at crime scenes.

William A. Berg, who earned bachelor’s and master’s degrees in agronomy in 1953 and 1958, was recognized as an Honored Alumnus of the Department of Soil and Crop Sciences. Berg’s professional interests have centered on vegetation establishment and management on disturbed lands. He has researched the effects of coal strip mines in eastern Kentucky; has worked on reclamation of mined lands in Colorado’s high country; has taught range science at Colorado State University; and has served as a research soil scientist for the U.S. Department of Agriculture-Agricultural Research Service Southern Plains Range Research in western Oklahoma. He and his wife have retired to a small farm in North Carolina.

Fred A. Cholick, who received master’s and doctoral degrees in agronomy in 1972 and 1977, was recognized as an Honored Alumnus of the Department of Soil and Crop Sciences in September. Cholick has spent much of his career focused on genetic improvement of wheat in the context of international agricultural development. He worked for many years as a faculty member and administrator at South Dakota State University. Cholick also has served as dean of the College of Agriculture and director of Research and Extension at Kansas State University. He now works as president and CEO of the Kansas State University Foundation. During his career, Cholick has held a variety of leadership roles with national and international academic, scientific and industry organizations that advance education, agriculture, and international agricultural development.

Real Fehringer, who earned a bache- lor’s degree in agronomy in 1979, was recognized as an Honored Alumnus by the Department of Soil and Crop Sciences in September. Fehringer is a Certified Professional Agronomist and Certified Crop Advisor who owns Fehringer Agri- cultural Consulting Inc. Based in Billings, Mont., he consults extensively, provides expert-witness services, and performs contract research. Fehringer has worked for many years with the energy industry, analyzing soil, crop and water impacts of natural-gas production. He also owns Fehringer Ag Strip Tillage and has served on several agricultural advisory committees.

Chris Kraft, owner of Badger Creek Farm and Quail Ridge Dairy, was a featured speaker at the ‘Future of Food’ forum presented on June 28 in Denver by the Washington Post Live and sponsored by the Western Dairy Association. Kraft, who earned a bachelor’s degree in animal science in 1990, was part of a panel discussion that also featured Colorado State University President Tony Frank and Colorado Commissioner of Agriculture-Agricultural Research Service Robert Hammond. The three discussed critical links between food production and education.

Walid el-Feki, who received a doctoral degree in soil and crop sciences in 2010, returned to the Department of Soil and Crop Sciences to work as a post-doctoral research associate on drought-tolerant wheat. El-Feki is an assistant professor in the Department of Crop Sciences at the Faculty of Agriculture, Alexandria University Egypt.

Robbie LeValley, who earned bachelor’s and master’s degrees in animal science in 1987 and 1989, was guest speaker at the 10th annual Calf to Brisket fundraiser for the Department of Animal Sciences in the College of Agricultural Sciences. LeValley, who earned a bachelor’s degree in agricultural economics, and Sylvia, who earned a degree in agricultural journalism, supports a research project called “Intro- duction history and patterns of spread of a xerotherm system in a novel habitat.”

Emmanuel Caldera, a graduate student studying ruminal nutrition in the Department of Animal Sciences, attended the Latinos in Agricultural Leaders Forum in San Antonio in October. Caldera attended presentations about opportunities for Latino professionals in the agricultural industry. He also took part in a student panel, “What Will I Do to Recruit Me? Hispanic Students Share Their Perspective.”

Jessica Davis, in the Department of Soil and Crop Sciences, earned “College Hours” for her presentation at 2013 Celebrate Undergraduate Research and Creativity. Her poster was titled “Comparison of Coleoptile Lengths in Synthesized Drought-Water Wheat.”

Bill and Sylvia Webster, who earned bachelor’s degrees in 1997, served as grand marshals of the Greeley Stampedes and Independence Day Parade last summer. Bill, who received a degree in agricultural economics, and Sylvia, who earned a degree in social science, are longtime Greeley residents and supporters of the Stampedes, known as the world’s largest Fourth of July rodeo and Western celebration. Bill, former president of Webster Land and Cattle Co., also has been active with the National Cattlemen’s Association, the United Way of Weld County, and the Greeley Planning Commission. Sylvia, founder of the North Colorado Medical Center Foundation, has served on the local school board and has been active with Weld County arts and charitable organizations.

Fred A. Cholick has spent much of his career focused on genetic improvement of wheat in the context of international agricultural development. He worked for many years as a faculty member and administrator at South Dakota State University. Cholick also has served as dean of the College of Agriculture and director of Research and Extension at Kansas State University. He now works as president and CEO of the Kansas State University Foundation. During his career, Cholick has held a variety of leadership roles with national and international academic, scientific and industry organizations that advance education, agriculture, and international agricultural development.

Real Fehringer, who earned a bache- lor’s degree in agronomy in 1979, was recognized as an Honored Alumnus by the Department of Soil and Crop Sciences in September. Fehringer is a Certified Professional Agronomist and Certified Crop Advisor who owns Fehringer Agri- cultural Consulting Inc. Based in Billings, Mont., he consults extensively, provides expert-witness services, and performs contract research. Fehringer has worked for many years with the energy industry, analyzing soil, crop and water impacts of natural-gas production. He also owns Fehringer Ag Strip Tillage and has served on several agricultural advisory committees.

Chris Kraft, owner of Badger Creek Farm and Quail Ridge Dairy, was a featured speaker at the ‘Future of Food’ forum presented on June 28 in Denver by the Washington Post Live and sponsored by the Western Dairy Association. Kraft, who earned a bachelor’s degree in animal science in 1990, was part of a panel discussion that also featured Colorado State University President Tony Frank and Colorado Commissioner of Agriculture-Agricultural Research Service Robert Hammond. The three discussed critical links between food production and education.

Walid el-Feki, who received a doctoral degree in soil and crop sciences in 2010, returned to the Department of Soil and Crop Sciences to work as a post-doctoral research associate on drought-tolerant wheat. El-Feki is an assistant professor in the Department of Crop Sciences at the Faculty of Agriculture, Alexandria University Egypt.

Robbie LeValley, who earned bachelor’s and master’s degrees in animal science in 1987 and 1989, was guest speaker at the 10th annual Calf to Brisket fundraiser for the Department of Animal Sciences in the College of Agricultural Sciences. LeValley, who earned a bachelor’s degree in agricultural economics, and Sylvia, who earned a degree in agricultural journalism, supports a research project called “Intro- duction history and patterns of spread of a xerotherm system in a novel habitat.”

Emmanuel Caldera, a graduate student studying ruminal nutrition in the Department of Animal Sciences, attended the Latinos in Agricultural Leaders Forum in San Antonio in October. Caldera attended presentations about opportunities for Latino professionals in the agricultural industry. He also took part in a student panel, “What Will I Do to Recruit Me? Hispanic Students Share Their Perspective.”

Jessica Davis, in the Department of Soil and Crop Sciences, earned “College Hours” for her presentation at 2013 Celebrate Undergraduate Research and Creativity. Her poster was titled “Comparison of Coleoptile Lengths in Synthesized Drought-Water Wheat.”

Bill and Sylvia Webster, who earned bachelor’s degrees in 1997, served as grand marshals of the Greeley Stampedes and Independence Day Parade last summer. Bill, who received a degree in agricultural economics, and Sylvia, who earned a degree in social science, are longtime Greeley residents and supporters of the Stampedes, known as the world’s largest Fourth of July rodeo and Western celebration. Bill, former president of Webster Land and Cattle Co., also has been active with the National Cattlemen’s Association, the United Way of Weld County, and the Greeley Planning Commission. Sylvia, founder of the North Colorado Medical Center Foundation, has served on the local school board and has been active with Weld County arts and charitable organizations.
Student News
Continued from page 41

Members of the CSU English Riding Club traveled to Edinburgh, Scotland, to ride in the Royal (Dyke) School of Veterinary Studies Horse Society International Invitational Horse Show in May. The six students rode horses provided by the University of Edinburgh. The CSU students participating were Callie Caldwell, Emily Dickson, Taylor Engels, Morgan Klett, Jake McDermott and Delani Miller.

We’ve got nice MANRRS! Students in the CSU chapter of Minorities in Agriculture, Natural Resources, and Related Sciences won third place in CAHNRvision this fall. The design contest is part of Campus Around the Oval. CSU’s annual food drive to benefit the Food Bank for Larimer County. The MANRRS chapter donated 564 pounds of food. Students pictured here are Codie Brooke, Carrie Johnson and James Calabaza.

Alex Harvey, above, a junior majoring in animal science, animal breeding, was named a Golden Opportunity Scholar by the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America. Hodgkinson, from Burlington, Colo., attended the societies’ international scientific meetings in Cincinnati, Ohio, in October. He took part in a special mentoring program to gain guidance, professional contacts and encouragement in his chosen career field.

Eight students in the College of Agricultural Sciences – including four young military veterans – volunteered with Honor Flight Northern Colorado in September. Each student and their biology, is alluring to diagnostic pregnancy toxemia in sheep. Hemph was an Agricultural Ambassador in the College of Agricutural Sciences and worked at the CSU Veterinary Teaching Hospital.

We’ve got nice MANRRS! Students in the CSU chapter of Minorities in Agriculture, Natural Resources, and Related Sciences won third place in CAHNRvision this fall. The design contest is part of Campus Around the Oval. CSU’s annual food drive to benefit the Food Bank for Larimer County. The MANRRS chapter donated 564 pounds of food. Students pictured here are Codie Brooke, Carrie Johnson and James Calabaza.

Alex Harvey, above, a junior majoring in animal science, animal breeding, was named a Golden Opportunity Scholar by the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America. Hodgkinson, from Burlington, Colo., attended the societies’ international scientific meetings in Cincinnati, Ohio, in October. He took part in a special mentoring program to gain guidance, professional contacts and encouragement in his chosen career field.

Eight students in the College of Agricultural Sciences – including four young military veterans – volunteered with Honor Flight Northern Colorado in September. Each student and their biology, is alluring to diagnostic pregnancy toxemia in sheep. Hemph was an Agricultural Ambassador in the College of Agricutural Sciences and worked at the CSU Veterinary Teaching Hospital.

We’ve got nice MANRRS! Students in the CSU chapter of Minorities in Agriculture, Natural Resources, and Related Sciences won third place in CAHNRvision this fall. The design contest is part of Campus Around the Oval. CSU’s annual food drive to benefit the Food Bank for Larimer County. The MANRRS chapter donated 564 pounds of food. Students pictured here are Codie Brooke, Carrie Johnson and James Calabaza.

Alex Harvey, above, a junior majoring in animal science, animal breeding, was named a Golden Opportunity Scholar by the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America. Hodgkinson, from Burlington, Colo., attended the societies’ international scientific meetings in Cincinnati, Ohio, in October. He took part in a special mentoring program to gain guidance, professional contacts and encouragement in his chosen career field.

Eight students in the College of Agricultural Sciences – including four young military veterans – volunteered with Honor Flight Northern Colorado in September. Each student and their biology, is alluring to diagnostic pregnancy toxemia in sheep. Hemph was an Agricultural Ambassador in the College of Agricutural Sciences and worked at the CSU Veterinary Teaching Hospital.

We’ve got nice MANRRS! Students in the CSU chapter of Minorities in Agriculture, Natural Resources, and Related Sciences won third place in CAHNRvision this fall. The design contest is part of Campus Around the Oval. CSU’s annual food drive to benefit the Food Bank for Larimer County. The MANRRS chapter donated 564 pounds of food. Students pictured here are Codie Brooke, Carrie Johnson and James Calabaza.

Alex Harvey, above, a junior majoring in animal science, animal breeding, was named a Golden Opportunity Scholar by the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America. Hodgkinson, from Burlington, Colo., attended the societies’ international scientific meetings in Cincinnati, Ohio, in October. He took part in a special mentoring program to gain guidance, professional contacts and encouragement in his chosen career field.

Eight students in the College of Agricultural Sciences – including four young military veterans – volunteered with Honor Flight Northern Colorado in September. Each student and their biology, is alluring to diagnostic pregnancy toxemia in sheep. Hemph was an Agricultural Ambassador in the College of Agricutural Sciences and worked at the CSU Veterinary Teaching Hospital.

We’ve got nice MANRRS! Students in the CSU chapter of Minorities in Agriculture, Natural Resources, and Related Sciences won third place in CAHNRvision this fall. The design contest is part of Campus Around the Oval. CSU’s annual food drive to benefit the Food Bank for Larimer County. The MANRRS chapter donated 564 pounds of food. Students pictured here are Codie Brooke, Carrie Johnson and James Calabaza.
Temple Grandin, professor in the Department of Animal Sciences, was the featured guest at a public event hosted by Rosy Mountain PBS in August. The event included a showing of “The World Needs All Kinds of Minds,” a 35-minute documentary about Grandin and her work, which was produced by Colorado State University Communications and Creative Services. Grandin, a world-renowned animal-welfare expert who has overcome personal struggles with autism, also took part in a question-and-answer session with the audience. The event raised about $3,000 for the Dr. Temple Grandin Scholarship in Animal Behavior and Welfare, which supports Grandin’s graduate students. Photo by Rosalie Winard

Gary Young, professor emeritus in the Department of Agricultural and Resource Economics, received the college’s 2011 Administrative Professors Excellence Award. She is known for her warm and upbeat manner, and for her efficiency and professionalism.

Shannon Archibeque-Engle, above, director of undergraduate programs in the Department of Animal Sciences, was a featured presenter at the second annual Latinos in Agriculture Leaders Forum in San Antonio, Texas, in October. The forum brought together industry, education and government representatives to explore ways to improve professional Latino representation in agriculture and related industries. Archibeque-Engle discussed the role of advising in attracting Latino students in Agriculture Leaders forum in San Antonio, Texas, in October. The forum brought together industry, education and government representatives to explore ways to improve professional Latino representation in agriculture and related industries.

Robert A. Young, professor emeritus in the Department of Agricultural and Resource Economics, was honored and featured speaker at the department’s inaugural Legacy Lecture in September. Young discussed his career as a water resource and agricultural policy economist with more than 40 years of applied research, teaching and consulting experience. He also conferred the third Dr. Robert A. Young Scholarship in Water Economics to recipient Allison Gunter, a graduate student in the department. Young, who continues to work nationally and internationally, has focused on methods for economic evaluation of proposed public policies for investments in and allocation of water supplies. His book, “Determining the Economic Value of Water: Concepts and Methods,” published with support from the World Bank, was published by Resources for the Future in 2005.

Noa Roman-Muniz, a faculty member in the Department of Animal Sciences and extension dairy specialist, received an award sponsored by Water PK Inc. and the CSU Athletic Department recognizing her dedicated service and excellence in teaching. The award was conferred by Ram Student-Athletes at a home football game.

Kevin Perd, above, head of the Department of Animal Sciences, has been named secretary of the National Association for the Advancement of Animal Science. The association formed to advocate more effectively for federal research funding in animal agriculture. The group is made up of heads of universities dedicated to animal agriculture; they represent universities nationwide.

continued from page 43

Shannon Archibeque-Engle, above, director of undergraduate programs in the Department of Animal Sciences, was a featured presenter at the second annual Latinos in Agriculture Leaders Forum in San Antonio, Texas, in October. The forum brought together industry, education and government representatives to explore ways to improve professional Latino representation in agriculture and related industries. Archibeque-Engle discussed the role of advising in attracting Latino students in Agriculture Leaders forum in San Antonio, Texas, in October. The forum brought together industry, education and government representatives to explore ways to improve professional Latino representation in agriculture and related industries.

Robert A. Young, professor emeritus in the Department of Agricultural and Resource Economics, was honored and featured speaker at the department’s inaugural Legacy Lecture in September. Young discussed his career as a water resource and agricultural policy economist with more than 40 years of applied research, teaching and consulting experience. He also conferred the third Dr. Robert A. Young Scholarship in Water Economics to recipient Allison Gunter, a graduate student in the department. Young, who continues to work nationally and internationally, has focused on methods for economic evaluation of proposed public policies for investments in and allocation of water supplies. His book, “Determining the Economic Value of Water: Concepts and Methods,” published with support from the World Bank, was published by Resources for the Future in 2005.

Noa Roman-Muniz, a faculty member in the Department of Animal Sciences and extension dairy specialist, received an award sponsored by Water PK Inc. and the CSU Athletic Department recognizing her dedicated service and excellence in teaching. The award was conferred by Ram Student-Athletes at a home football game.

Tori Valdez, a research associate in the CSU Wheat Breeding Program, received the 2012 Jeanne Bortolat Laude Women in Triticum Award. This award provides professional development opportunities for women working in wheat during the early stages of their career. Valdez is among five international award recipients in 2012. She was invited to a technical workshop in Beijing, China, in September.

Jorge Vivanco, a professor of this chapter, is being served as a mentor to the NITROGEN Ideas Lab coordinated by the National Science Foundation. He will help select participants in the Ideas Lab and will assist in developing research projects that investigate the role of nitrogen in producing food, while reducing pollution and greenhouse gas emissions.

Dale Weemer, meat scientist and assistant professor in the Department of Animal Sciences, helped host a group of editors from Korea’s leading lifestyle magazines at CSU’s Agricultural Research, Development and Education Center in Fort Collins in early September. The tour highlighted the quality and safety of U.S. beef for influential media representatives in Korea, the No. 5 market for U.S. beef exports. Other tour stops included a Wyoming cattle ranch and a high-end Manhattan steakhouse. The U.S. Meat Export Federation, based in Denver, organized the tour. Also in September, Weemer presented information about U.S. beef production, processing and grading during a seminar for importers and distributors in Santiago, Chile, one of the highest global markets for U.S. beef.
Morsels

Beef workshop offers facts from the inside

Building consumer trust was the aim of a one-time event called Beef + Transparency = Trust, held Oct. 3 at the Renaissance Hotel Denver and organized by faculty in the Department of Animal Sciences. Attending the event were about 110 invited food writers, dietitians, chefs and representatives of agricultural media outlets. These attendees – who influence consumer opinions and decisions – gained information about modern beef production from about a dozen scientists, business people and family ranchers. The seminar addressed a rise in consumer interest about food sources by providing facts from those who know most about beef production. The event was supported by the Colorado Beef Council, with input from the Colorado Dietetic Association and Colorado Chefs Association. Faculty member Travis Hoffman was lead organizer of the event, with help from Dale Woerner, assistant professor with CSU’s Center for Meat Safety and Quality.

President Tony Frank presented Dick Monfort with an honorary degree at the Colorado State University Graduate School Commencement Ceremony, May 11, 2012.

Dick Monfort, who has longtime ties to agriculture and Colorado State University, received an honorary doctoral degree during university commencement in May. President Tony Frank presented the Doctor of Humane Letters, Honoris Causa, in recognition of Monfort’s significant contributions to Colorado, industry and higher education in northern Colorado. Monfort is owner, chairman and chief executive officer for the Colorado Rockies Major League Baseball Club. He spent 25 years in the cattle business, serving as president of Monfort of Colorado, the reinvigorated beef company founded by his family, and ConAgra Red Meats Co. Monfort and the Monfort Family Foundation are among northern Colorado’s leading philanthropists. CSU programs supported by the Monforts have helped the university as global leaders – and attract and retain outstanding students and faculty.

Lecture delves into a-maize-ing possibilities

The 13th annual Thornton-Massa Lecture in early November featured an invited public talk by Edward Buckler, a leading plant geneticist with the U.S. Department of Agriculture-Agricultural Research Service and Cornell University. Buckler discussed ways to use cutting-edge genomic tools to improve corn for yield, drought tolerance, nutritional value, environmental benefits and even perennial crops. Buckler was named 2011 Distinguished Senior Research Scientist by USDA-ARS for developing maize with significantly higher levels of carotenoids for subsistence farmers in sub-Saharan Africa, where corn is a dominant food crop and vitamin A deficiencies often cause childhood blindness and immune dysfunction. The Thornton-Massa Lecture is presented by the colleges of Agricultural Sciences and Natural Sciences; it is generously supported by the families of the late Emil Thornton and Bruce and Mildred Thornton, who believed in the importance of advanced plant sciences.

Dean Craig Beyrouty leads teaching, research and outreach in the CSU College of Agricultural Sciences. Megan Reeves, from Whittier, California, and Ben Canales, from Tacoma, Washington, support these efforts as Ag Day Ambassadors – student leaders for our college.

Feed the world. Protect the environment. Improve quality of life.

In the College of Agricultural Sciences, you will build on Aggie traditions to help solve the grand challenges of our times. Our global population will top 9 billion people as you reach the peak of your career. That makes agriculture more important than ever before. And it gives you the chance to master contemporary agricultural sciences that will make a difference. Here you’ll have a supportive academic family and inspirational professors. You’ll receive meaningful learning in the field, through clubs and activities, with internships, and in research laboratories. All this, in the unmatched setting of Colorado. Now that’s taking our Aggie ‘A’ to new heights!

About 54,400 new jobs will be available in agriculture and related fields, according to the newest U.S. Department of Agriculture jobs forecast. Taking The ‘A’ to new heights!

Improve quality of life. Now that’s taking our Aggie ‘A’ to new heights!
On July 2, 1862, President Abraham Lincoln signed the transformative Morrill Act, which led to creation of Colorado State University and other land-grant universities nationwide.

Until then, college education was for the privileged few. The Morrill Act established universities for the broad populace, with a focus on agricultural sciences and the mechanical arts.

CSU and other land-grant universities have become tremendous engines for discovery, economic development and community engagement. We’re proud to carry the land-grant tradition to a new era!

Learn more at [www.colostate.edu/morrillact](http://www.colostate.edu/morrillact)