

CALS NEWS

THE MAGAZINE OF CORNELL UNIVERSITY'S COLLEGE OF AGRICULTURE & LIFE SCIENCES

FALL 2009

The Food Issue

Man on a Mission: Stop Mindless Eating



Cornell University

Also inside:
Local Foods Feed the Empire State
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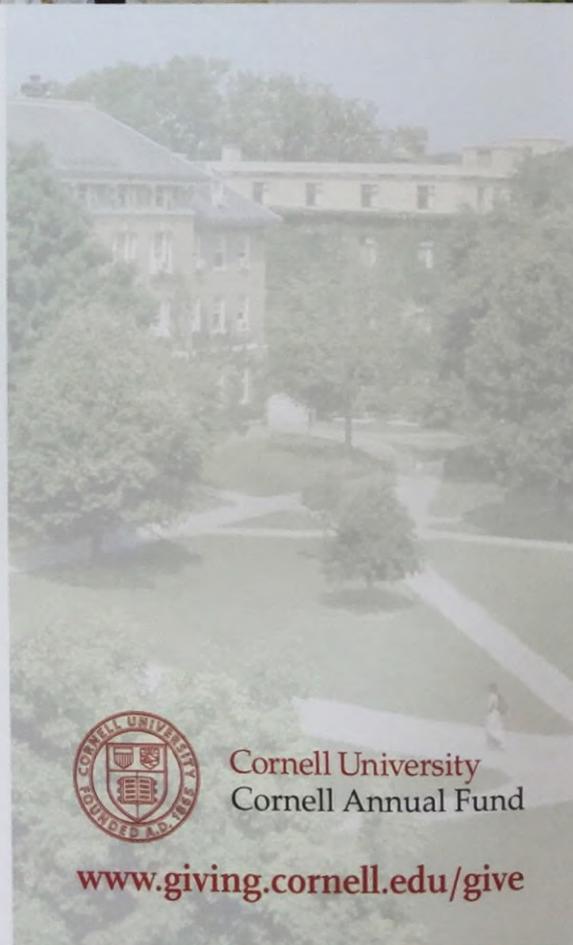
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— Dean Susan Henry

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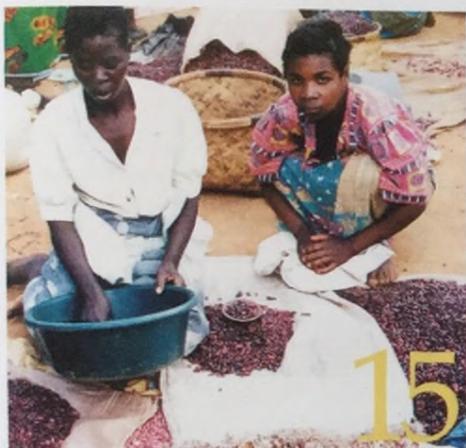
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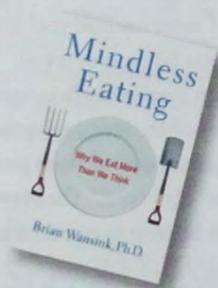
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Dean's Message

Supporting CALS Students



One year ago, global financial markets gave way, precipitating a deep recession that has squeezed many families—from large metropolitan centers to suburban areas to rural towns. As we begin a new academic year, the severe downturn hampers the ability of families at every level of society to pay for college. Yet, for most students, higher education continues to be the best means to expand one's intellect and embark on a rewarding career path. And our college has a responsibility to educate the next generation of scholars and leaders who can revitalize our economy and make important discoveries for the good of society.

Scholarship support is critical to CALS' goal of maintaining access to higher education during these challenging times. CALS strongly supports Cornell President David Skorton's pledge to place student aid at the center of *Far Above...The Campaign for Cornell*. In 2009–2010, the university will substantially increase its investment in students from lower- and middle-class families and eliminate loans for students who come from households making less than \$75,000 per year.

Across Cornell, nearly one in two undergraduates receives some form of need-based aid. In CALS, the scholarship need is most acute: 60 percent of our undergraduates receive need-based aid, the highest share of any college at Cornell. In the previous academic year, the average financial hardship for eligible CALS students was more than \$28,000. During the same period, state and federal support for financial aid (grants, loans, and work-study funding) declined from one-half to nearly one-fourth of Cornell's financial aid budget.

Aware of these realities, my husband, Peter, and I recently established a \$100,000 scholarship fund directed at students from rural New York. While the challenges facing urban students are well-documented, the hardships of rural students are often overlooked. As I enter my final year as dean, Peter and I felt this gift would be the most meaningful way we could assist students for years to come.

Much like their peers in urban centers, students from rural areas face significant obstacles in applying to, being accepted, and paying for college. For one, they often attend schools that lack resources, such as Advanced Placement courses and SAT preparation support, found in more prosperous districts. In fact, the state classifies almost half of its 356 rural school districts as "high need." The New York State Center for Rural Schools, directed by education professor John Sipple, is helping to correct that imbalance by serving rural communities across the state.

Even when they overcome these barriers and are accepted to Cornell, rural students, in some cases, are asked to contribute beyond their means to their tuition. On paper, farm families appear to have significant real estate assets that could be used to finance a child's education. In reality, however, most agricultural operations would be devastated if they were forced to sell off land to pay for college. Professors Wayne Knoblauch and Brent Gloy, agricultural economists in the Department of Applied Economics and Management, have worked closely with the Financial Aid Office to make the expected family contribution more equitable for students from working farms. As a result, rural students will see more affordable tuition costs and be more likely to enroll at Cornell.

The college also continues to update its curriculum and recruitment strategies to appeal to students from rural areas. Last fall, CALS added a Viticulture and Enology major, which has already drawn numerous students from winemaking families. (Read about the new CALS Teaching Winery on page 5.) The Agricultural Sciences major, launched in 2007, provides students with an interdisciplinary education in the biological, social, and economic foundations of agriculture. Attracted by these and other majors, the CALS Class of 2013 includes more than 40 students from farm families, along with an additional 130 students with agricultural, FFA, or 4-H experience.

It's not only students from under-resourced rural schools who gain from scholarships. CALS attracts many undergraduates from large cities, where schools often suffer from limited funding and many families live on meager incomes. For all of our students, scholarship support helps ensure that one's financial means never stands in the way of a Cornell education.

To learn more about giving opportunities related to undergraduate scholarships for Cornell's urban or rural applicants, I encourage you to visit www.campaign.cornell.edu/scholarship-aid.cfm.

—Susan A. Henry, PhD,

The Ronald P. Lynch Dean of Agriculture and Life Sciences

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FALL 2009

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Short Reports

New Cornell Lab Focuses on Grape, Wine, and Juice Research

Cornell deepened its century-long commitment to Western New York's wine, grape, and juice industries with a ribbon-cutting ceremony August 25 to inaugurate the new Cornell Lake Erie Research and Extension Laboratory (CLEREL) in Portland, N.Y.

Since 1909, CALS has maintained a research laboratory in nearby Fredonia. With the opening of the state-funded, \$5.4 million Portland facility, CALS sustains a rich history of viticulture advancements in vineyard management and production systems, grape breeding, pest control, and mechanical harvesting.

More than 50 acres of prime grape-growing land surrounds the new lab. The facility also includes state-of-the-art equipment for lab and field tests, and classrooms and meeting space for research and extension staff from Cornell and Pennsylvania State University, visiting scientists, and growers.

"The Portland laboratory serves as a regional hub for research and extension, as well as a resource for growers, producers, and visiting scientists from New York and beyond," says Susan A. Henry, the Ronald P. Lynch Dean of Agriculture and Life Sciences. "It is truly reward-

ing to uphold our commitment to supporting the state's grape, wine, and juice industries, which are vitally important to the New York economy and the Lake Erie region in particular."

New York's wine and grape industry makes a \$6 billion annual economic impact and includes more than 1,400 vineyards statewide. At the Portland lab, Cornell researchers will continue studies to increase yields, improve quality, and lower production costs of grapes grown in the Lake Erie escarpment, especially the Concord and Niagara varieties.

New York Deputy Commissioner of Agriculture Jackie Moody-Czub presented Terry Bates, new CLEREL director, with the Agricultural Environmental Management Award to recognize measures to conserve open space and water quality in the design, construction, and operation of the building.

—Ted Boscia



Ted Boscia

Leading the ceremony were (l-r) New York State Sen. Catharine Young (R-Olean); Tom Davenport of the National Grape Cooperative; New York Assemblyman William Parment (D-Jamestown); CLEREL director Terry Bates; Tom Burr, director of the New York State Agricultural Experiment Station and Goichman Family Professor of Enology and Viticulture; and Susan A. Henry, the Ronald P. Lynch Dean of Agriculture and Life Sciences.

Mary Had a Lot of Lambs: Researchers Speed Up Sheep Breeding

Mary had a little lamb, but only once a year. Cornell Sheep Program researchers have discovered an unusual form of a gene that prompts ewes to breed out of season and conceive at younger ages and more frequently.

They identified the presence of the unusual form of the so-called M allele in their test flock and then validated the gene's relationship with aseasoneal breeding by observing that trait.

The finding, published in the August issue of the *Journal of Animal Science* (Vol. 87, No. 8), may be a boon for the sheep industry worldwide.

"The primary biological limit for sheep production worldwide is the seasonality of breeding, but the market for high-quality lamb is a 52-week thing," says Doug Hogue, CALS professor emeritus of animal science. His colleague Mike Thonney and former CALS postdoctoral researcher Raluca Mateescu, MS '01, PhD '04, now at Oklahoma State University, co-authored the paper with Andrea Lunsford, a grad student at OSU.

Although the presence of the M allele has been definitively correlated with the breeding out of season, the researchers caution that it may only be a marker for the gene actually responsible for the trait

"Breeding out of season is complex, so there are a lot of genes controlling it," Mateescu says.

"In this case, we're talking about a receptor gene for melatonin [a naturally produced hormone]," Thonney explains. The change in the DNA sequence of the M allele does not change the amino acid sequence of the protein, so it may be an accurate indicator for breeding out of season, though it's uncertain whether the gene actually affects how the sheep's body reacts to melatonin. And there may be a risk of losing the association over generations, as recombination could occur between the marker and the functional gene.

The researchers stress that it will be important to validate the gene's ability to indicate for aseasoneal breeding each time the allele is bred into a new sheep population.

Mateescu is now focusing on placing markers across the sheep's entire genome to more accurately determine which gene or genes directly affect the trait of aseasoneal reproduction.

—Chris Bentley '10



Former Cornell postdoc Raluca Mateescu co-authored a study with Professor Mike Thonney that identifies a way to prompt ewes to breed more frequently and at younger ages.

Studying Tiny Insects, CALS Scientists Shed Light on Large Matters



Provided

From left, entomologists Ping Wang, Jeff Scott, and Angela Douglas combine their expertise in insect research at the Sarkaria Institute of Insect Physiology and Toxicology.

At Cornell's Daljit S. and Elaine Sarkaria Institute of Insect Physiology and Toxicology, researchers unlock the secrets of how insects work. Their discoveries about the physiology of insects and how they respond to toxins hold great promise for many scientific areas from sustainable agriculture to human health.

In 2008, renowned entomologist Angela Douglas joined the Sarkaria Institute, bringing her expertise in symbiosis research and nutritional physiology. Douglas, most recently a professor at the University of York in England, studies how some insects thrive on unbalanced diets. Her revolutionary work in insect nutrition demonstrates how aphids carry symbiotic bacteria

that supply essential amino acids missing from their diet of plant sap.

"Her energy and intellect are so stimulating that the whole department has benefited by having her here," says Jeff Scott, professor and chair of the Department of Entomology in Ithaca.

Douglas says the Sarkaria Institute and CALS' superb reputation for insect science attracted her. "I am finding working at Cornell exhilarating, with so many excellent colleagues in the department and across the campus and the tremendous resources here for doing insect science," says Douglas, the Daljit S. and Elaine Sarkaria Professor of Insect Physiology and Toxicology.

In 2002, Daljit S., PhD '48, and Elaine Sarkaria

established the institute with a significant gift as a center for fundamental research and student training that would serve as a forum for the advancement of insect physiology and toxicology. It is also meant to foster collaborations among scientists in many departments in addition to entomology.

Led by Douglas, Scott, and Ping Wang, PhD '96, associate professor of entomology at the New York State Agricultural Experiment Station, Sarkaria Institute scientists apply the recent surge of available insect genomic information to develop solutions for pest management and environmental protection. They also use insects as models for studying human disease and climate change.

Each of the researchers contributes their particular expertise in insect physiology and toxicology. Wang focuses on the mid-gut, where insects digest their food and absorb nutrients, to understand how insects develop resistance to chemical pesticides.

Like Wang, Scott studies insecticide resistance, but from an evolutionary perspective. He hopes to find ways to slow "instant evolution," in which agricultural pests and insects transmitting human disease rapidly develop pesticide tolerance, with the goal of developing sustainable pest control methods.

In each of these areas, the Sarkaria Institute is committed to training future entomologists and fostering collaboration among Cornell scientists and outside partners. Since 2007, the institute has hosted four graduate students supported by Sarkaria fellowships, as well as numerous undergraduate researchers. In addition, each fall it hosts the Patton Lecture, delivered by an esteemed insect physiologist or toxicologist. The Sarkarias sponsor the event in honor of the late Robert L. Patton, a CALS entomologist for nearly 40 years.

—Isabel Lea Sterne '10

Rich Products Seeds CALS Research in Whole Grains

For health-minded consumers, basic white bread is out. Whole grains are in.

Rich Products Corporation, recognizing this growing trend, recently gave \$10,000 to support research by Rui Hai Liu, PhD '93, associate professor of food science, in the nutritional benefits of whole grains. Rich's, based in Buffalo, N.Y., produces a wide variety of frozen foods, as well as products sold directly to supermarket bakeries and other retail locations.

"Dr. Liu's research intrigues us, since we strive to introduce new products that promote health and wellness," says Steve Franz, Rich's vice president for research and development. "People are more health-conscious than ever, so they are careful about what they eat."

The gift adds to other recent collaborations between the company and CALS. Franz



recently joined the advisory council for the Cornell Institute of Food Science, which trains students and conducts research of benefit to the food industry. Kevin Malchoff '74, MBA '75, president of Rich's international business group, serves on the CALS Dean's Advisory Council. In May, two CALS graduate students, along with others from the Department of Food Science, toured Rich's corporate headquarters.

"Research-based partnerships with companies like Rich Products are essential to the mission of the Cornell Institute of Food Science,"

says Kathryn Boor '80, chair of the Department of Food Science. "The company's gift will serve as a nucleus for enhanced and focused interactions between our faculty, students, and scientists at Rich Products in working toward a better understanding of health-promoting constituents of whole grains."

For both CALS and Rich's, the partnership continues to pay off. Seven current Rich's researchers are graduates of the Food Science program. Boor points out that interactions with the food giant help prepare CALS students for a possible career in the food industry.

"We've been very impressed by the quality of education we've seen in Cornell graduates," says Franz. "It's been a true win-win situation."

—Ted Boscia

Aspiring Vintners Move into New Teaching Winery



Craig Cramer

Students taking Wine Microbiology evaluate fall grapes in the CALS Teaching Winery.

This fall, a class of Cornell undergraduates became the first to learn the science and art of winemaking in the new CALS Teaching Winery at the Cornell Orchards.

In the course Wine Microbiology, taught by enology lecturer Kathleen Arnink, about 30 beginning vintners harvest fall grapes and then use chemical and microbiological tools to blend wines and control the fermentation processes. As the wines age into the spring, students will continue to adjust and filter until it is ready for bottling.

The \$900,000, 1,800-square-foot winery, attached to the Cornell Orchards, acts as the Ithaca hub for CALS' new viticulture and enology undergraduate major, which enrolls roughly 30 students and draws on more than 50 faculty members from the horticulture, food science technology, plant pathology, and applied economics and management departments.

"The College of Agriculture and Life Sciences Teaching Winery represents a major enhancement to our Viticulture and Enology (V&E) program," said Dean Susan A. Henry at the

building's dedication on April 1. "Having this facility in Ithaca is crucial for our undergraduates, who will gain from hands-on experience in winemaking and grape-growing."

The winery includes state-of-the-art fermentation tanks and equipment for grape storage and the preparation and analysis of wines, much of it donated by industry. It also allows students and faculty members convenient access to three acres of hybrid wine grapes at the Cornell Orchards and is near the program's Lansing vineyards, which grow vinifera varieties like Pinot Noir, Riesling, and Chardonnay.

CALS is long known for its viticulture research, and now claims the only college teaching winery in the eastern United States. Previously, V&E students crafted wines in a makeshift lab in Stocking Hall.

"The facility is among the finest in the United States and provides our students with the widest range of winemaking experience," says Ramón Mira de Orduña, associate professor of enology and a driving force behind the winery's creation.

—Ted Boscia

Biofuels Research Lab Opens in Riley-Robb

A June 23 ribbon-cutting ceremony marked the official opening of the Biofuels Research Laboratory in Riley-Robb Hall. Researchers had already moved into the \$6 million, 11,000-square-foot lab and begun work there in January. The new lab is the hub of Cornell's research and development of sustainable and economical biofuels derived from nonfood crops like switchgrass and sorghum.



"The Biofuels Research Laboratory catapults Cornell to the forefront of renewable energy research and becomes the centerpiece of the university's broad portfolio of work on cellulosic biofuel and bioproducts," says Dean Susan A. Henry. She points out that many people will benefit from the work of the lab. "New York farmers will see new opportunities to grow the plant material used as inputs, workers will see job growth in the bioenergy sector, and we all gain from a more sustainable energy supply."

The Cornell researchers are creating cellulosic ethanol—a process that frees sugars from perennial grasses and woody biomass, then biologically converts that material into fuel. Unlike corn ethanol, cellulosic ethanol is derived from such nonfood crops as switchgrass, sorghum, and willow, so it has little effect on food prices. In addition, most of the stocks used in the biofuels lab can thrive on marginal lands that normally would go unused. Cellulosic ethanol,



Rob Way

Attending the ribbon-cutting ceremony are (from left) Kevin McCabe, Kevin McLaughlin, Professor Larry Walker, Dean Susan Henry, Commissioner of NYS Agriculture and Markets Patrick Hooker '84, and Cornell President David Skorton.

therefore, holds greater long-term promise than corn ethanol.

Larry Walker, the principal investigator and professor of biological and environmental engineering, says the challenge is to generate the fuel in a way that's efficient, cost-effective for producers and consumers, and sustainable. The

Biofuels Research Laboratory allows researchers to do that by conducting a systemic analysis of biofuel production—from using sophisticated microscopes to study enzymatic processes at the nanoscale to transforming plant sugars into ethanol in a 150-liter fermentation reactor.

—Susan Lang

Made@CALs

New Apple Selections Are Fast-Tracked at 30 NY Orchards

Thirty New York orchard owners are growing new apple selections developed at CALs' Agricultural Experiment Station in Geneva to test whether the apples could be a commercial success.

Aiming to fast-track grower testing of 42 advanced apple-breeding selections, the New York Farm Viability Institute provided funds for the tests. Susan Brown, Herman M. Cohn Professor of Horticultural Sciences and project leader, expects the project to identify two new varieties with the potential for commercialization.

"If the expected new apples are even half as successful in commercial orchards as their predecessors—the Empire, Jonagold, Macoun, etc.—New York's apple producers will harvest great fruit with a tremendous economic impact," Brown says.

Over the past century, Cornell has developed 62 apple varieties, including the Empire. From 1996 to 2004, New York produced half of the U.S.-grown Empire apple crop at a value of more than \$20 million.

Donald F. "Tre" Green III, a third-generation tree fruit grower, is evaluating six to 10 trees of 12 varieties of the upstarts at his 1,300-acre Chazy Orchards in Clinton County. If a variety proves successful, he will devote 20 acres to the new apple. He estimates an investment of 6,000 trees per acre would cost

approximately \$5,000. The return from the mature orchard would be about \$10,000 per acre per year.

Green hopes the trial apples do as well as his last new variety.

"The Honeycrisp was an unknown when I planted it in 2000, and it has proven to be perfect for our northern growing conditions and our buyers," he says.

The Cornell-affiliated New York Farm Viability Institute is a farmer-led nonprofit group that awards funds to research and outreach projects that help farmers increase profits. In late 2005, the institute awarded a multiyear grant to help growers test new apple varieties in field conditions.

—Kara Lynn Dunn



Project leader Susan Brown



Portable Mini-Lab Could Improve Disaster Response, Personalized Care

While some commercial labs are reeling from budget cuts and downsizing, Rheonix Inc. wants to shrink the lab until it is small enough to fit in the palm of your hand.

The microfluidics firm—formerly an entity of micro-electromechanical giant Kionix, Inc.—has developed a unique system called the Chemistry and Reagent Device (CARD™) that can automatically perform virtually any manual bench-top laboratory function in an area one-half the size of a standard business card.

Since it spun off at the end of 2008, Rheonix has been collaborating with Antje Baeumner, CALs professor of biological and environmental engineering, to develop applications for the technology in environmental sampling and health care. Rheonix has licensed Baeumner's intellectual property related to this technology from the Cornell Center for Technology Enterprise and Commercialization.

"You tell it what tests you want to run, and it goes," says Tony Eisenhut '88, president and CEO of Rheonix. Using a CARD can amount to a huge labor savings, he says, because a single lab technician can perform the work of many by using the technology, "[creating] efficiency in the system that isn't there today."



As a platform technology, the CARD may free up time, money, and expertise in the laboratory with its "sample in, results out" format. Richard A. Montagna, PhD, senior vice president of Rheonix, hopes to make the CARD more user-friendly by adding electronic readout capabilities. "It's an exciting aspect of our collaboration with CALs," Montagna says.

Rheonix has received funding from several sources to integrate medical and environmental research onto its CARD system, including a \$1.67 million award from the National Institutes of Health to develop point-of-care (POC) technologies for underserved and nontraditional health care settings. In rural clinics and disaster-response facilities, for example, the technology could aid in triage, allowing practitioners to quickly determine which patients need the most urgent care.

The Environmental Protection Agency (EPA) has also shown interest in such POC technologies for their potential to efficiently assess the presence of water-borne pathogens. According to Baeumner, EPA regulations often make current methods of testing for water quality prohibitively expensive. Baeumner's work with biosensors may help streamline this process by allowing plant operators to perform tests on-site.

Rheonix is hopeful for other POC applications, such as for personalized medicine. A CARD designed to test blood samples for their reaction to the blood thinner Coumadin, for example, could save weeks of dosage adjustments.

—Chris Bentley '10



Mind Your Peas and Cues

A CALS researcher aims to shrink Americans' waistlines by unraveling the stew of factors that causes us to overeat.

BY TED BOSCIA

Since moving his Food and Brand Lab to Cornell in 2005, Brian Wansink is on what he calls "a mindless-eating mission." With two-thirds of Americans either obese or overweight, according to the National Center for Health Statistics, Wansink is crusading against America's growing girth. In the process, he has gained considerable influence over what foods and how much of them appear on our plates.



The Food and Brand Lab in Warren Hall is equipped with two-way mirrors and hidden cameras and scales. It can be outfitted to simulate a dining room, living room, or home kitchen.

Wansink, the John S. Dyson Professor of Marketing in the Department of Applied Economics and Management, reconfigures home kitchens, school lunchrooms, and corporate cafeterias to nudge people away from traps that set off overindulgence. He has overhauled the USDA Food Guide Pyramid and propelled its web site to the top-viewed page in the federal government domain, surpassing even the IRS. And his hugely popular book, *Mindless Eating: Why We Eat More Than We Think*, an account of

the lab's dozens of studies of the environmental factors that prompt us to unknowingly overeat, is available in 19 languages.

In 2009, however, Wansink is pursuing perhaps his most ambitious goal

yet: convincing the residents of a small city in

the Midwest to add a collective 10,000 years to their lives by adopting healthier dining habits. Wansink is the food expert for the Vitality Project, a six-month, community-wide initiative to remake Albert Lea, a town of 18,000 tucked between two lakes in southern Minnesota, into one of the world's healthiest communities.

Dan Buettner, a *National Geographic* explorer who has ventured to the globe's far-flung "blue zones"—his term for areas where residents enjoy an exceptionally long lifespan—leads the project. Buettner and a group of researchers hope to weave common traits from places like Okinawa, Japan, and Loma Linda, Calif, where residents often live beyond 100 years, into the fabric of Albert Lea.

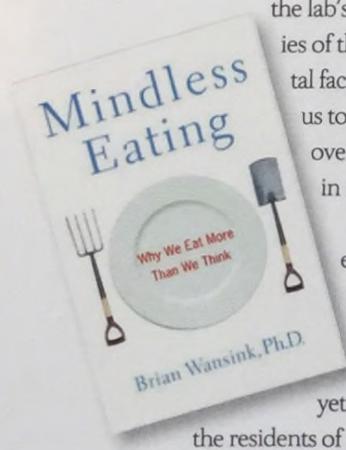
For his part, Wansink focuses on persuading the town's residents and restaurants, schools, and employers to adopt his mindless-eating solutions. He has developed a list of small, voluntary measures people and restaurants can implement to shift away from unhealthy eating tendencies.

"When I constructed my dream team for the Vitality Project, Brian's name was first on the list," says Buettner, who sought out Wansink after reading his hit book. "Brian is a high-octane personality with an incandescent and brilliant mind. Yet he has none of the pretense that people of his stature normally have, which opens him up to discourse and connections with people in the Albert Lea community."

For Wansink, the project is perfect for putting his wellness ideals into practice and to further examine food psychology. It also carries an added perk: Albert Lea is a short drive to his Iowa hometown, a place that would shape his food habits for years to come.

"Food Is What We Do"

Ask Wansink about his experiences as a boy growing up in Sioux City, Iowa, in the 1960s, and the conversation turns to food. He remembers a "somewhat imagined" bout of "perceived food insecurity" when his dad was laid off and his family meals often included powdered milk, pancakes,



and “weird chicken parts.” He spent summers on his aunt and uncle’s farm shucking corn and knocking on doors to peddle fresh produce. Later, he took a job delivering pizzas where the biggest perk was unlimited slices for the drivers. “I put on a few pounds then,” he admits.

“Living in Iowa, food is at the center of everything,” Wansink says. “You live on a farm or work on one, or you have friends who do. Food is what we do.”

It’s little wonder that Wansink gravitated toward a career in food and nutrition. After earning his master’s degree in communication from Drake University in 1984, he considered a career as a food writer. But a consulting project at *Better Homes and Gardens* turned him onto consumer behavior, and soon after he started a Ph.D. program at Stanford University intent on “getting people to eat more vegetables.”

At Stanford, Wansink’s inchoate research interests started to take shape, and his dissertation on food selection won top honors from the national Marketing Science Institute. In the following years, he held academic posts at Dartmouth and UPenn’s Wharton School before joining the University of Illinois in 1997, where he first established his Food and Brand Lab.

Wansink produced a stream of studies advancing his theory that subtle visual cues, not appetite or food quality, are a dieter’s bogeyman. Consider his bottomless soup bowl experiment, which won a 2007 Ig Nobel Award “for research that makes people laugh and then think.” Wansink and an engineering student rigged up a soup bowl with a hidden tube that imperceptibly refills the bowl as a person slurps. Predictably, diners treated to an endless supply of soup ate 73 percent more than their single-bowl companions, but, remarkably, the overeaters rated themselves no more sated by the meal. One participant even downed a quart of soup in 15 minutes before Wansink stopped the experiment.

At Cornell, Wansink continues his headline-grabbing studies. Lately, he showed that the iconic *Joy of Cooking’s* modern recipes pack 63 percent more average calories per serving than the 1936 edition.

Before launching a large-scale study, Wansink and student researchers often perform a trial run in the Food and Brand Lab in Warren Hall. Equipped with two-way mirrors and hidden cameras and scales, in a few hours the space can be outfitted to simulate a dining room, living room, or home kitchen—the perfect vantage point to measure how people perceive and consume their food. To get more data, the team will plant

Junk food stored in plain sight and eating from oversized plates cause people to gorge. A fridge that gives fruits and veggies center stage and a dining room far removed from a TV lead to more moderate meals and snacking.

itself in campus dining halls and local bars and restaurants to observe people in everyday settings. Each year, the Food and Brand Lab conducts as many as 20 studies.

“Our mission in the lab is to observe eating behavior as it occurs in the real world and come up with ways for people to avoid common food traps,” says Wansink. “Everyone is affected by powerful environmental factors that can trigger overeating without even being aware.”

Wansink’s lab attracts plenty of under-

graduates from nutrition, applied economics, psychology, and pre-med, but they also come from unexpected majors like government, library science, chemical engineering, and mathematics. He screens the 40 applicants down to no more than 15 finalists, who work for a year in the lab. Each year, the lab follows a broad theme. For the current year, it’s Smarter School Lunchrooms; next year’s will be Alcohol Consumption.

“The opportunity for hands-on learning is what makes a Cornell degree so powerful,” says Wansink. “You can get a great education by going to classes, but you get an exceptional, life-changing education when you work with research and with community extension. No place can do this in the same way Cornell can. Our extension program is beyond legendary.”

Non-Fat Albert

Connecting with the public is what most attracted Wansink to the Vitality Project in Albert Lea. There, he has pitched his mindless-eating solutions to townspeople and community and business leaders.

Atop Wansink’s list of recommendations for families and individuals is a home audit that gauges whether the layout of their kitchens and dining rooms prods them to pig out. Junk food stored in plain sight and eating from oversized plates cause people



Dan Buettner

Wansink meets with Mary Nelson, food service director for Albert Lea schools, to discuss how to remake students’ eating habits.

Building the Pyramid



The media and book reviewers have christened Wansink with many colorful monikers, the "Wizard of Why," the "Sherlock Holmes of Food," and the "Nutrition Swami" among them. For the final year and a half of President George W. Bush's second term, he could claim another: "Food Czar."

On Nov. 19, 2007, Wansink became executive director of the USDA's Center for Nutrition Policy and Promotion (CNPP), a position with great authority to set the nation's food agenda. In his limited time in Washington, Wansink targeted nutritional gatekeepers—individuals (usually women) responsible for purchasing and preparing a family's meals—with his makeover of the Food Guide Pyramid. By focusing on this demographic, www.MyPyramid.gov increased its web hits to 5.6 million per day, becoming the most accessed .gov web site in the federal domain.

"For years, the food pyramid was this convoluted concept that few people understood or used," says Wansink, whose research is credited with developing the popular 100-calorie snack packs. "Guided by my research from the Food and Brand Lab, I felt it was best to target the nutritional gatekeepers and orient the pyramid around menu planners and other easy-to-use features. Instead of targeting everyone, you capture one person who shapes the eating habits for the entire family."

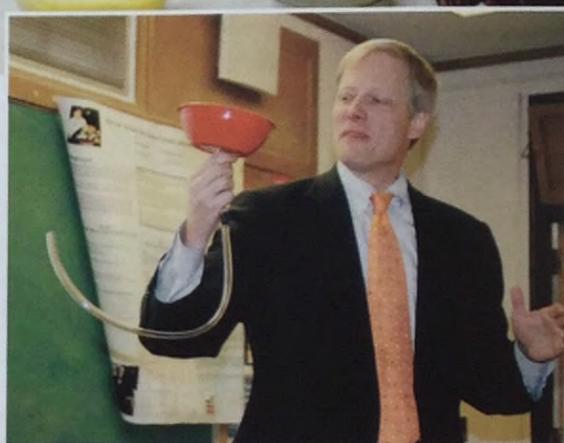
Wansink also oversaw the development of the 2010 federal dietary guidelines, a review that occurs every five years between the USDA and the Department of Health and Human Services. His work at the USDA led *ABC World News* to name him its "Person of the Week" in January 2008.

"Serving at the USDA helped me become more sophisticated with my research," he says. "You quickly gain a sense of what's possible when it comes to practice, policy, and daily life. In academia, we sometimes come up with great, incredibly nuanced ideas that just wouldn't go very far in the real world. That's the wonderful challenge."

—Ted Boscia



Consumer Camp is an annual event hosted by Cornell's Food and Brand Lab. Here, participants learn how people serve less (and eat less) when the color of the food contrasts with the plate and serve more when the colors match.



Wansink demonstrates how the "bottomless soup bowl" works.

to gorge, his research shows. On the other hand, a fridge that gives fruits and veggies center stage and a dining room far removed from a TV lead to more moderate meals and snacking.

"People don't realize how much we are at the mercy of our environment," Wansink says. "We buy in bulk and have these huge pantries stocked with everything imaginable. When hunger sets in, we turn to whatever's most convenient."

The town's restaurants are getting in on the act, too. More than 60 percent of Albert Lea eateries have adopted some of Wansink's "win-win solutions," such as highlighting their most profitable healthy items on their menus instead of the bacon cheeseburger or offering half-sized entrees.

Wansink says such a community-wide approach is another way to help Americans slim down. If the experiment succeeds, Vitality Project organizers are keen to hold up Albert Lea, a city with typical rates of obesity, hypertension, and dia-

betes, as a model for the rest of the nation. "We're hoping that the practices we put in place here will transform this community and ultimately scale to other parts of the country," Buettner says.

In Albert Lea, the project appears to be working. One local truck stop implemented 10 of Wansink's 12 suggestions and now touts half-sized portions and fresh salads alongside its traditional greasy fare. "This is a place that most people would consider the unhealthiest in the world," he says. "If they can do it, anything's possible."



WEB EXCLUSIVE

Mindless Eating Theater

Watch Cornell Food and Brand Lab students reenact the horrors of the bottomless soup bowl, the stale popcorn paradox, and more! Visit CALS News online, and learn tips and tricks to avoid overeating.

calsnews.cornell.edu

FEEDING AN EMPIRE STATE

CALS responds to rising demand for local foods.

Hudson Valley farmer Sam Simon is a marketing marvel. Riding the tide of a national consumer and social trend—the “buy local” movement—Simon built a thriving, expanding, environmentally friendly business in one of the oldest trades on earth: selling milk.

BY LAUREN CHAMBLISS

Five years ago, Simon formed Hudson Valley Fresh (HVF) with the help of Cornell Cooperative Extension, then-state assemblyman Patrick Manning, and five Dutchess County dairy farmers to market a high-quality, environmentally friendly fresh milk that moves from cow to supermarket shelf in less than two days and sells at a substantial premium to conventional milk. Expected to sell 1.5 million pounds this year, HVF is meeting consumer demand, increasing farm profits, and encouraging sustainable food systems. And by keeping some 800 cows and 5,000 acres in production, HVF is also holding back New York City sprawl, which has gobbled up an increasing amount of Hudson Valley's agricultural landscape in the past decades.



Chris Bentley



Chris Bentley

From left, CALS researchers Todd Schmit, Margaret Smith, Miguel Gomez, and Christian Peters visit the Ithaca Farmers Market to assess the local produce.

"When you buy our milk, you also buy 5,000 acres of open space and a way of life," says Simon.

No wonder, then, that policymakers from Albany to Washington are attempting to craft policies that would encourage production and promote distribution of fresh local products, from apples to beef to zucchini. Governor David Paterson's Food Policy Council is leading the charge in the New York government to identify ways to strengthen the connection between local food products and consumers. Recently, the Food Policy Council members traveled to Cornell to meet with faculty, extension experts, and students who are working hand-in-hand with businesses large and small to identify the opportunities and challenges entailed in feeding the state's 19.5 million citizens with more of the

food that is grown here.

"Our research in the North Country showed that 'local' carries much more value with consumers than even 'organic,' and those findings are consistent with other studies across the nation," says Todd Schmit MS '94, PhD '93, an assistant professor in the Department of Applied Economics and Management (AEM). "The interesting thing is that it isn't just quality and environmental factors that motivate buyers, but the idea that they are supporting local farmers and contributing to the local economy."

Indeed, the "local" label has gained such cachet with consumers that national food giants, including Frito-Lay, Tropicana, and some large-scale farming concerns, recently launched marketing campaigns around the theme. For example, Frito-Lay is running

ads in Florida that show local potato farmers' connection to the chips sold in area supermarkets. Closer to home, Wegmans, a regional grocer headquartered in Rochester, N.Y., has longstanding relationships with local farmers, large and small, to supply fresh produce in season.

Local Motive

Economists agree that from an economic standpoint, it is a win-win for a local economy if consumers spend their money on products produced and sold close to home, keeping dollars in circulation in the population that first earned them. But there is far less scientific certainty about whether limiting "food miles"—the distance food travels—is always the most sustainable option from an environmental standpoint.

One might think that an apple bought from a nearby orchard would have less of a carbon footprint than one shipped coast to coast (Carbon dioxide is the greenhouse gas most closely linked with global climate change.) But recent studies suggest a tractor-trailer packed with 40,000 pounds of apples traveling 2,500 miles from the Pacific Northwest to New York City may actually have fewer carbon emissions than New York farmers driving bushels of apples in pickups to a local city market, says AEM assistant professor Miguel Gomez.

"From an efficiency and environmental sustainability standpoint, we cannot make the claim that in all instances, local is better," says Gomez. "If we really want to assess a food system's sustainability, we have to look at multiple dimensions, including the impact on the local economy, food miles, nutrition, efficiency, and environmental consequences, including greenhouse gas emissions. Right now, this information simply doesn't exist." Gomez, in his first year at CALS, dreams of establishing a center for sustainable food systems, which would combine the expertise of Cornell economists, plant breeders, engineers, nutritionists, soil scientists, and extension experts to fill in the current knowledge gaps.

Two things are clear: consumers care more than ever about where their food comes from, and it is theoretically possible for major urban areas to get substantially more of their

food from local and regional sources than they currently do. A recent landmark “foodshed” study showed that even large cities such as Albany, Buffalo, and Rochester could derive most of their food, by weight, from regional sources. The study was conducted by Gary Fick, a professor in the Department of Crop and Soil Sciences (CSS); Jennifer Wilkins, a senior extension associate in the Department of Nutritional Sciences; and Christian Peters MPS ’02, PhD ’07, a CSS postdoctoral associate.

Professor Fick says it is important to look at a regional geographic area—or foodshed—rather than a specific mile target when assessing the sustainability of food systems. For example, New York City is too large to locally source the diets of its 8 million inhabitants. On the other hand, the state’s second-largest city, Buffalo, which is surrounded by farmland, could meet most of its 1.2 million residents’ nutritional needs within an average distance of a mere 30 miles, though to do so would require a significant change in American consumption trends to a less meat-intensive diet. The foodshed study was financed with Hatch funding administered through the Cornell University Agricultural Experiment Station.

“We knew that this state could never meet all its own food needs, but what was surprising was that our research showed it could meet far more than we anticipated while minimizing food miles,” says Peters. “Our model didn’t allow for strawberries in the middle of winter, but it did include fruits and veggies in the required quantities for a nutritional and balanced diet.”

But even if Buffalo became a city of “locavores”—the name for consumers who focus their food buying on local products—some items, such as coffee, would still have to travel a very long distance.

Farm Aid

Meeting demand for local foods is not always easy. Small farms—of which there are a growing number in New York—find it particularly difficult to market their products through distribution channels that link large farms, agribusinesses, and supermarket chains. Small farms tend to rely more on direct-to-

consumer sales, otherwise known as “D2C,” which include farmers markets, Community Supported Agriculture farms (CSAs), and farm stands. Since 2002, there has been a 22.3 percent increase in the number of New York farms selling D2C.

“Most new farms today are starting small and marketing local,” says Anu Rangarajan, a senior extension associate in the Department of Horticulture. “We need to develop the infrastructure to provide more assistance to these farmers to tap into marketing, distribution, and processing systems and help them identify and produce the right type and right quality of foods for local markets.”

She points to livestock marketing as an example of the roadblocks local producers face. Consumer demand for local, free-range meat and poultry is high, but processing

plants with certified inspectors are few and far between. Some even have waiting lists.

“In some areas, if you have a hog born in spring, you have to immediately make an appointment to have it butchered in December because the meat processing plants are so backed up,” she says.

Rangarajan is director of the Cornell Small Farms Program and coordinates an online training program that has been used by more than 600 new farmers to guide them through the startup phase with strategic planning. The training program helps farmers avoid some of the hit-or-miss moves that can sink early entrants into the local market.

Local More for Locavores

Cornell scientists are also developing local “niche” products that command the premium prices that can revitalize farm



Chris Bentley



USDA

Anu Rangarajan directs the Cornell Small Farms Program and coordinates an online training program to guide farmers through a successful startup.

CALS Kitchen Cooks Local Produce on TV

Now in its second season, *From Farm to Table* is a televised cooking show with a twist—the chef cooks up meals that are healthy, tempting, and show audiences the ultimate starting point for the ingredients of all good meals—the farm.

“We want to educate consumers about how food is grown,” says Theresa Mayhew, a resource educator for Cornell Cooperative Extension (CCE) of Columbia County and the driving force behind the show. Mayhew partners with the TV network WMHT in the Albany-Capital Region to produce the series, which showcases tasty, easy-to-prepare meals using locally available, in-season ingredients to encourage people to buy and eat local foods.

Each episode opens with a short video clip of the farm where that day’s main menu item originated. In one episode, “Wonderful World of Berries,” the opening clip begins at a local strawberry field and then moves to the kitchen, where the host of the show, CCE nutrition educator Kim Sopzyk, whips up spinach, strawberry, and walnut salad. Along with nutritional advice, chef Sopzyk offers anecdotes and tips from her own personal experience as a mother trying to overcome her children’s picky eating habits.

Shown throughout the Albany area, the upcoming season includes 13 episodes ranging from recipes for root vegetables to making healthy “comfort foods” with less fat, calories, and sodium.

—Isabel Lea Sterne '10

economies. Take organic dairy—the fastest-growing portion of the dairy industry—as an example. Most New York organic dairy farmers, including big producers and smaller family farms, import organic feed because not enough is grown in-state. This is partly because organic seed sold by major retailers grows best in drier climes, such as the Midwest. Now, thanks to Cornell corn breeder Margaret Smith '78, PhD '82, a professor in the Department of Plant Breeding and Genetics, New York farmers have two new options for hybrid organic corn seed bred to thrive in their fields.

“There is a big need for seed that will supply the local market and particularly for seed that can withstand New York’s shorter grow-



Entomologists Harvey Reissig (left) and Art Agnello formed a partnership with New England-based nonprofit Red Tomato, which produces its ecologically grown, locally sourced, and sustainably produced “Eco Apples.”

ing season, typically poorer soils, and fall weather challenges,” says Smith.

Working with New York’s agricultural environment is a challenge even for growers of one of the state’s most successful products, apples. New York is a major apple producer, but it is very difficult for growers to satisfy demand for one niche that commands premium prices—organic—in a state that has more than a dozen major pests and diseases, according to Harvey Reissig, a professor in the Department of Entomology at Cornell’s New York State Agricultural Experiment Station. Still, with integrated pest management techniques developed at Cornell, apple growers can produce fruit with dramatically reduced pesticide use.

Reissig and fellow entomologist Art Agnello '74 recently formed a unique partnership with a New England-based nonprofit, Red Tomato, which promotes local, sustainably grown produce and builds marketing relationships with major retailers, such as Trader Joe’s and Whole Foods. Red Tomato’s trademarked “Eco Apples” are “ecologically grown, locally sourced, and

sustainably produced,” says Agnello.

Reissig and Agnello recruited five New York apple growers into the Eco Apple program and are developing protocols for New York that are consistent with the eco-friendly label. Peter Ten Eyck '60, the owner of Altamont, N.Y.-based Indian Ladder Farms, is one of the apple growers in the pilot project. “I’m trying to find kinder and gentler ways to raise apples,” says Ten Eyck. “The Eco Apple program shows that we are being thoughtful about the process of pesticide application and that we make growing decisions based on real science. That is about the best you can do.”



WEB EXCLUSIVE

Country Cooking

Cornell Cooperative Extension educators serve up seasonal fare from New York state farms on *From Farm to Table*. Check out a recent episode for healthy comfort food recipes perfect for winter.

calsnews.cornell.edu

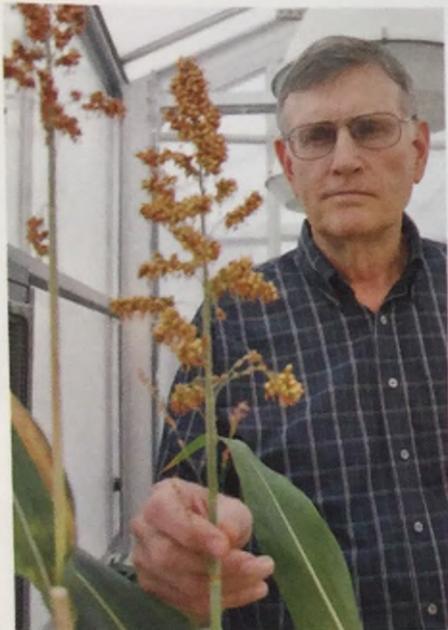


Young Ugandans enjoy orange sweet potato in Saayi, Mukono.

HIDDEN HUNGER: BIOFORTIFIED CROPS TO THE RESCUE

BY MARISSA FESSENDEN '09

Plant breeders and nutritional scientists are boosting micronutrients in food crops to enrich diets and reduce malnutrition in developing countries.



Chris Bentley



Chris Bentley

Ross Welch (above) and Leon Kochian (above, right) of the USDA-ARS lab at Cornell are breeding plants with needed nutrients to counter malnutrition caused by diets centered on single crops.

In 1997, the children of Bangladesh were suffering from a disease never before seen in that part of the world. There was no Bengali word for the deformities that were bending the backs and bowing the legs of their children.

The disease was rickets, a softening of the bones that results in gross deformities. Rickets is normally associated with lack of sunlight and accompanying vitamin D deficiency. Cornell scientists were puzzled to see a high rate of this disease in sun-drenched Bangladesh. One of the scientists was Ross Welch, adjunct professor of crop and soil sciences and researcher at the USDA-Agricultural Research Service (USDA-ARS) Robert Holley Center for Agriculture and Health located on campus. Welch and the other researchers thought that the rickets were caused by a lack of calcium rather than a lack of vitamin D. The children of Bangladesh were eating only rice, staving off hunger but suffering from malnutrition.

Known as “hidden hunger,” malnutrition affects more than 3 billion people in developing countries. Using plant breeding and nutritional science to grow plants that will provide needed nutrients, Cornell researchers and the international research program HarvestPlus are leaders in biofortification.

“The problem isn’t that there isn’t enough food,” says Leon Kochian, a professor of plant biology and director of the USDA-ARS lab. “The Green Revolution addressed the caloric needs of the people but tended to push agriculture toward a monoculture. Instead of eating legumes and other diverse foods of the traditional food system, people began to rely on a single cereal crop like rice. This decreased the varied diet.”

Plenty of Carbs but Not Enough Nutrients

The Green Revolution brought sweeping agricultural changes. Starting in Mexico in the 1940s and spreading to India and Asia by the 1970s, farmers in developing countries began to adopt new technologies and methods that dramatically increased yields of staple food crops. India saw annual wheat production rise from 10 million tons in the 1960s to 73 million in 2006. The Green Revolution was heralded as a huge success, reducing famine and poverty in the developing world.

“In Bangladesh, no one over the age of 25 has rickets,” Welch says. “I attribute that health problem to the loss of edible legume seeds in the diet of the poor. Legumes are much richer in calcium than the cereal crops that replaced them.”

According to Welch, there are more than 30 million deaths each year from malnutrition, or about one death per second from both overt deficiencies as well as chronic malnutrition. The problem is on the rise, from 30 percent suffering before the Green Revolution to more than 50 percent now.

“The current problems are unforeseen consequences of the Green Revolution, which stressed three crops—rice, corn, and wheat,” Welch explains. “The staples provided two nutrients—carbohydrates and a little protein—but people need a minimum of 42 nutrients, and if you are missing even one of these nutrients, you become sick.”

Micronutrients are the minerals and vitamins needed in only small amounts to maintain a healthy diet. As malnutrition rises, HarvestPlus scientists have identified iron, zinc, and vitamin A as three key micronutrients that are often deficient. In the United States, micronutrient malnutrition is a rarity because food is fortified during processing. Iron, folic acid, thiamin, riboflavin, and niacin are added to flour; iron and many other micronutrients are added to baby formula; and vitamins A and D are added to milk.

“We’ve been fortifying food in this country for 60 years now,” says Dennis Miller,



Hugo De Groot (CIMMYT)

Orange maize is rich in vitamin A, a key micronutrient that is often deficient.

PhD '78, professor of food science and nutrition at Cornell. "This works very well in places like the U.S., where we have good centralized processing, good technology, and very good monitoring of the food supply. In developing countries it is very difficult to regulate the nutrients in the food. They don't have the centralized processing facilities that we do. If they have any at all, it may be at a village level."

Ten years ago, Howdy Bouis, an economist at the International Food Policy Research Institute, became a pioneer in the then unnamed field of biofortification.

Welch says, "He wanted to know, 'Can plants fortify themselves?'" Inspired by Welch's work with zinc in wheat, Bouis founded HarvestPlus in 2004. The program, one of three pioneer programs under the Consultative Group for International Agricultural Research, is now a global leader in developing biofortified crops. Supported by grants from the Bill and Melinda Gates Foundation, USAID, and other donors, HarvestPlus works with more than 200 agricultural and nutrition scientists around the world.

Edward Buckler, a USDA-ARS research geneticist in Cornell's Institute for



Chris Bentley

Edward Buckler and lab members in Cornell's Institute for Genomic Diversity found a gene variant in the maize genome that conferred a three- to four-fold increase in beta-carotene.

Genomic Diversity and an adjunct associate professor in the Department of Plant Breeding and Genetics, dissects the complex pathways that lead to beta-carotene, a precursor to vitamin A in maize.

"In Sub-Saharan Africa and Latin America, there are large numbers of people who don't get enough vitamin A," Buckler says, "There, 60 to 70 percent of their calories are from direct consumption of maize." After going through the thousands of genes that make up the maize genome, Buckler's lab found a gene variant that conferred a three- to four-fold increase in beta-carotene.

"It takes five years of breeding to introduce the gene variant and put it in the proper genetic background," Buckler points out. "Beta-carotene, or provitamin A, is a nutritional trait, but farmers are con-

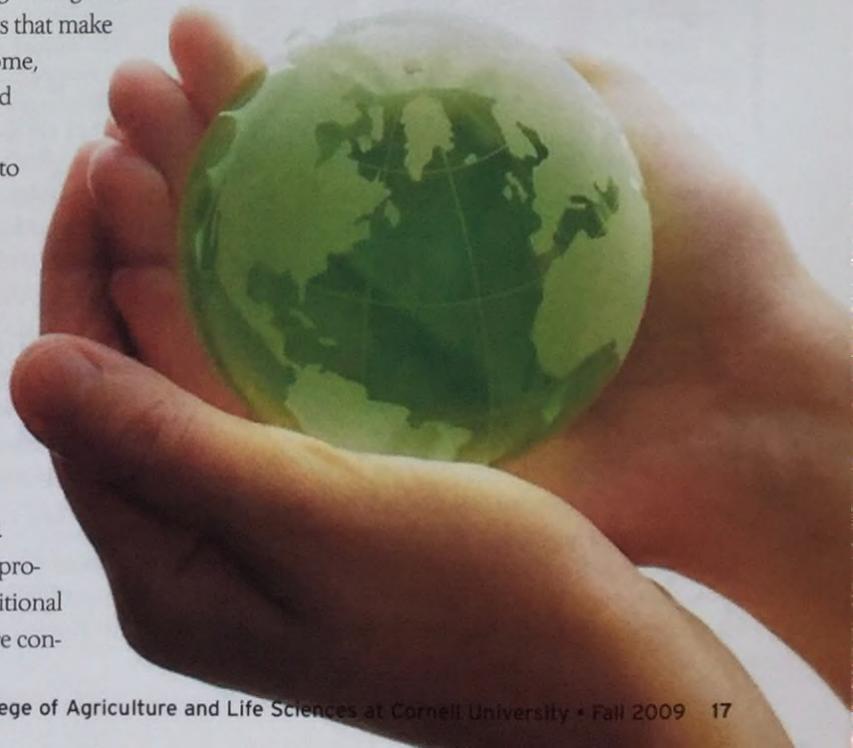
cerned about yield and drought resistance, so we need a maize variety that integrates all of these qualities."

Genetically screening thousands of maize varieties suited for growth around the world is expensive. Fortunately, the International Wheat and Maize Improvement Center, based in Mexico, developed a five-cent molecular assay using PCR (polymerase chain reaction), a simple technique that can make millions of copies of the provitamin A gene. With this tool, researchers around the world are easily able to identify the gene in any variety of maize they need.

Bring on the Plant Breeders

After breeding the biofortified crop, nutritionists like Dennis Miller step in to make sure the nutrients from the plant are available for consumption. Miller works on iron-biofortified beans.

Iron is essential for carrying oxygen in the blood, making up the active part of hemoglobin. "When iron stores have been depleted and the demand for more iron is not met, you become anemic," Miller explains. "Anemia has consequences. Kids who are anemic have impaired cognitive development. In severely anemic women, childbirth can be fatal. Anemia can be reversed easily, but the cognitive development in children is permanent"





In a HarvestPlus pilot project, Ugandan women grow orange-fleshed sweet potato that is higher in Vitamin A content.



Jere Haas in the Division of Nutritional Sciences hopes to bring iron-biofortified beans to schoolchildren in southern Mexico. If the beans increase the children's iron levels, the improved seeds will be given to farmers.

Kochian says that plants tightly regulate their uptake of iron from the soil. The chemical reactivity of iron makes it essential to living systems, but too much iron can be toxic. Bioavailability, or ease of uptake, is more important than the total amount of iron. "If you can increase the availability, then you don't need to increase the content," Kochian points out.

Miller's nutritional studies with pigs show that consuming a high-iron bean increases iron in the bloodstream. This is promising enough that Jere Haas, the Nancy Schlegel Meinig Professor of Maternal and Child Nutrition in the College of Human Ecology's Division of Nutritional Sciences, hopes to take the biofortified beans to southern Mexico to conduct a nutrition study with schoolchildren. If the beans improve the iron levels of those children, then the next step is to get the improved seeds to farmers.

The greatest biofortification success story so far is that of sweet potatoes in Africa. Traditionally, African farmers have grown white-fleshed sweet potatoes because they keep better and the texture is firmer. Unfortunately, the white flesh has no beta-carotene, and children were going blind as a result of vitamin A deficiency.

"In Mozambique, they were able to convince people to switch to orange-fleshed sweet potatoes and show improvement in children's vitamin A," Miller says. Some breeding was needed to improve the orange sweet potatoes' shelf life and disease resistance, but orange-fleshed sweet potatoes are on the market now.

The story is similar to that of golden rice. Golden rice is a genetically modified organism (GMO) with a higher beta-carotene content than normal white rice, which has essentially none. But there is concern that people will be reluctant to adopt a yellow version of their traditional white rice, and that because the golden rice is a GMO, many governments have been reluctant to promote or even approve the more nutritious variety. (The GMO debate has not affected development of high-iron beans, provitamin A maize, or the biofortified sweet potatoes because they are grown through traditional breeding practices.)

"It takes educating parents," Miller says. "If you tell a parent that this food will prevent blindness in their children, that is a powerful message, and I think people will change."

To help people around the world escape the hidden hunger of malnutrition, researchers, seed companies, and politicians must work together.

"Everyone is worried about population growth," says Welch, "but you need to put nutritional needs up front. Many children who suffer from micronutrient malnutrition can never reach their genetic potential for intelligence, they can't get a good education, they can't get the better jobs, and they marry early. It is a vicious cycle. If you want to stop that, you must put nutrition up front and break the cycle."



WEB EXCLUSIVE

Food for Thought

View images by CALS international nutrition graduate student Anna Herforth from her travels as she studies connections between agriculture and nutrition in South Asia and Africa.

calsnews.cornell.edu

Mann's Rooftop Garden Named for Dean Susan Henry

The rooftop garden on the southern end of Mann Library is now known as the Susan A. Henry Garden Terrace. In a ceremony in April, CALS alumni and friends dedicated the garden to Henry in honor of her significant contributions to Cornell.

Henry, who became the Ronald P. Lynch Dean of Agriculture and Life Sciences in 2000, says she was touched by the surprise unveiling of a plaque in her name.

Working with students in Peter Trowbridge's landscape architecture class, John Dyson '65, past chair of the CALS Advisory Council, and Janet McCue, former director of Mann Library, oversaw the beautification of the space—once an unsightly concrete expanse. The garden will be maintained by Nina Bassuk, professor of horticulture, and her students.

"Susan is a great gardener and a strong advocate for libraries," says McCue, associate university librarian. "What better place to dedicate in her honor than the terrace adjacent to Mann Library, an environment that fosters intellectual exploration and nurtures community?"

Previously, Dyson provided a gift to name the library's MacGregor Arcade and oversaw the creation of the Student Centennial Garden between Mann Library and Beebe Lake.



Susan A. Henry speaks at the Mann Library terrace garden dedication held earlier this spring. Pictured (l-r): Robert R. Dyson, John S. Dyson, Dean Henry, and Peter Dyson. The Dyson brothers, along with several other alumni and friends, surprised Henry by naming the terrace garden for her. A plaque was unveiled during the formal dedication.

"CALS is grateful for John Dyson's leadership on these many projects . . . and his larger vision to make the most of our natural environment and to establish living and working gardens that sustain us," Henry says.

Dyson recruited numerous donors to establish an endowment for the garden terrace. They are Stephen B. '62, MBA '64

and Janice Ashley, David '60 and Patricia Atkinson, Kathe Dyson, Peter and Barbara Dyson, Robert, MBA '74 and Emilie Dyson, George '60, MBA '62, JD Law '63, and Barbara Gellert, Lawrence '66 and Jennifer Goichman, Susan Lynch, Janet McCue, and Robert '60, and Audrey Tobin.

—Ted Boscia

Emily Casey '11 Uses Lab to Enrich Studies



Emily Casey

Just two years into her studies at CALS, undergraduate Emily Casey '11 is already an old hand in the research laboratory.

The biological sciences major has studied under Carl Batt, professor of food science, helping to design a skin test that could tell whether patients who have received a new cancer vaccine are experiencing the desired immune response. Her resume also includes

two separate stints as a summer researcher at the Memorial Sloan Kettering Cancer Center in New York and the Johns Hopkins Medical Institute in Maryland.

Casey says each experience incrementally teaches her to "think like a scientist."

"It teaches me to think critically and analytically, to develop a plan of action when hurdles arise, to systematically rule out variables until I find the cause of a problem, and to have the patience to accept failure and the perseverance to work past it until I reach my goals," says Casey, who is also a Cornell cheerleader.

Batt's lab is working in conjunction with the Ludwig Institute for Cancer Research on a drug that stimulates an immune response that attacks cancer cells and spares healthy cells. In theory, the vaccine would serve patients better than chemotherapy, which kills normal cells along with cancer cells.

The skin test that Casey is helping to

design will detect whether patients who have received the vaccine are making antibodies to NY-ESO1, an antigen found in multiple cancer types, rather than making antibodies to some background impurity in the injected dose. Batt describes this step as "critical" in the overall development of the drug, now in clinical trials.

"Emily is one of those unique students who is anxious to learn and a quick study," says Batt, who views laboratory experience as crucial to undergraduate education.

By graduation, Casey hopes to optimize the test as the vaccine moves toward pharmaceutical production. She's unsure about her plans after Cornell, though she can imagine leading her own laboratory or discovering new drugs for a pharmaceutical company. "I look forward to the day when I can ask my own questions and figure out how to answer them," she says.

—Isabel Lea Sterne '10

Ruth Ley Earns Beckman Award for Study of Gut Bacteria

Microbiologists know that diversity is not only skin deep. In fact, CALS assistant professor Ruth Ley thinks that a person's mix of microbes—which outnumber human cells ten to one in the body—could be as important to certain aspects of people's health as are their genes.

Ley, who joined the Department of Microbiology in 2008 from Washington University in St. Louis School of Medicine, is one of 11 scholars nationwide to receive the 2009 Arnold and Mabel Beckman Foundation Young Investigator award. This award will support her work on how defensins, a particular kind of antimicrobial peptide produced in the intestine, influence the diversity of bacteria in the gut. Ley was also selected a 2009 Pew Biomedical Scholar, but declined in light of the Beckman Award.

In past studies, Ley and her colleagues have shown that the composition of microbial communities in the gut can impact host health. For instance, obesity is associated with a reduced diversity of gut microbiota. She and her colleagues observed that sterile mice fed

with gut bacteria from fat mice gained more weight than the same mice fed with bacteria from lean mice—and who had otherwise the same diet.

"Mice that are completely germ-free are resistant to diet-induced obesity—you can't overfeed them and make them fat . . . but the second you put a bug in there, their metabolism changes," Ley explains.

While gut bacteria come from only three main groups—Firmicutes, Bacteroides, and Actinobacteria—the mix of species present can differ dramatically from one person to the next. Evidence suggests that a shared early environment may lead to intermingling microbes, though Ley says, "Even family members are still pretty different."

"If we just grab the functional genes out of that mix, we're going to end up with the same functions, but they're carried on a whole bunch of different strains for different people," she says. "Think of cars—they've all got a chassis and wheels, but there are all these different makes . . . though they all have the same functions, more or less." The

Robert Barker



Ruth Ley

microbiome of obese mice and humans, for example, may have a heightened capacity for storing energy, so that the host holds more energy—and gains more weight—than would a lean individual eating the same diet.

—Chris Bentley '10

Summer Scholars Focus on Plant Disease



Chris Bentley

Ann Fisher, a student from St. John Fisher College in Rochester, examines developing plants derived from callus tissue genetically transformed to resist plant disease.

For California native Cristine Kreitzer, it took a trip across the country to encounter a bacterium that has been plaguing her home state for years. Kreitzer, a student at Auburn University, spent her summer researching *Xylella*, which blocks water flow in plants and acts as the culprit behind Pierce's disease, a deadly grapevine pathogen.

She is one of 11 undergraduate students to participate in the first-ever Plant Pathology Summer Research Scholars Program at Cornell's New York State Agricultural Experiment Station (NYSAES). The eight-week program, focused on agricultural issues, is designed to teach young scholars to plan and conduct experiments, evaluate data, and explain their findings.

Eric Newton, a landscape and horticulture student at the University of Southern Maine in Orono, gained invaluable laboratory experience. He extracted

RNA from the herbaceous plant *Nicotiana benthamiana* to study resistance mechanisms to grapevine fanleaf virus. "I learned lab protocols that I was never exposed to before working in greenhouses as a horticulture student," says Newton.

Newton pointed to the diverse group of scholars as another benefit. He lived with

roommates from Maryland and Mississippi and also interacted with scientists from Brazil and Bulgaria.

Benjamin Bartlett, an integrated pest management major at Mississippi State University, is particularly impressed with the collaborative environment at NYSAES. "In a lot of other labs I've been in, people keep to themselves, but here people interact and work together on solutions," says Bartlett.

Bartlett worked to develop a variety of grapevines resistant to Pierce's disease. Bartlett and his colleagues experimented with injecting plants with a weakened version of the virus (similar to how a vaccine works) to deliver a small amount of compounds to kill the disease-causing bacteria.

"The student scholars experience research in many diverse aspects of plant pathology and gain an appreciation for how it supports agriculture," says Harvey Hoch, chair of the Plant Pathology and Plant-Microbe Biology Department in Geneva.

—Isabel Lea Sterne '10

Alumni Legacy Helps Feed the World

During his three-decade career with the federal government, including the USDA, Andrew "Jack" Nichols '34 planted his knowledge of farming on multiple continents.

As a food aid administrator, he helped postwar Germany rebuild its agricultural infrastructure during the 1940s. Soon after, Nichols documented efforts to introduce hybrid corn to war-torn Italy to feed its citizens. Upon his return to the United States, he studied at Harvard University under a Carnegie Fellowship program aimed at agricultural extension professionals. In later years, he prepared USDA case studies on agricultural technology transfer and extension education in India and Iran and across Latin America.

"Jack was a farm boy from upstate New York who ended up traveling the globe in the name of agriculture," says his nephew John P. Nichols '63, PhD '69. "He saw extension as a means to serve the world."

A bequest to the College of Agriculture and Life Sciences by Nichols and his wife, Grace, is supporting research in that same land-grant tradition. Through their estate, the couple endowed the Andrew J. and Grace

B. Nichols Professorship, following Grace's death in 2007, and 10 years after Jack's passing. Alan Collmer, PhD '81, professor of plant pathology, was recently named to the position.

Collmer, known for his fundamental studies in how bacteria sabotage plant hosts to cause disease, describes his research goal as "developing better ways to protect crops." He helped pioneer the use of molecular methods in plant pathology and led a team of scientists to sequence the genome of *Pseudomonas syringae*, a stealth pathogen that devastates tomato plants. Their discovery of the pathogen's full arsenal of virulence proteins helps scientists develop plants with stronger defenses.

"Cornell plant pathologists have a long tradition of training leaders in research, education, extension, science policy, and industry, and the Nichols Professorship will help me continue this tradition of excellence," says Collmer. He adds that the endowment will allow him to support more graduate students, who will leave Cornell equipped to improve agriculture in many parts of the world.



Grace and Jack Nichols

Reinforcing plant defenses through molecular genetics is a major advancement from Jack Nichols' roots as a county agricultural agent in Orleans County 75 years ago. Yet his nephew says Jack would appreciate the work in Collmer's lab. "He knew that to feed the world, you have to protect the plants," says John Nichols.

—Ted Boscia

Inaugural Class of Indian Agriculture Students Will Take Their Expertise Home



Visiting Indian plant breeding MPS students, from left, Pranjali Singh, Chiranth C. Rajashekar, and Supriya Shah learn new lab techniques in Stocking Hall.

The launch of two dual-degree programs offered by Cornell with India's Tamil Nadu Agricultural University (TNAU) means that 13 Indian students who arrived in Ithaca in early June are now part of history.

They are the inaugural class of new Master of Professional Studies (MPS) programs in plant breeding and food science—the first

agricultural life sciences degrees to be offered by a U.S. university specifically for Indian students. They will study at Cornell until December and then complete their degree requirements at TNAU in Coimbatore, India, to graduate next summer with an MPS degree from Cornell and a Master of Technology (M.Tech.) degree from TNAU.

The students plan to apply their new expertise about state-of-the-art lab equipment and the latest processes taught at Cornell to Indian agriculture and industry.

"This program is the first of its kind to be offered in India's state agricultural system and offers students exposure to courses and experience that cannot be gained in India," says K. V. Raman, Cornell professor of plant breeding who helped create the degree programs.

For example, Kriti Saxena in the food science MPS program wants to better understand

product development and marketing to bring the wide variety of mango products available in India—including concentrates, juices, oils, pickles, chutneys, and dried slices—to the global market.

Chiranth C. Rajashekar in the plant breeding and genetics program plans to learn such genetic techniques as marker-assisted selection for use in India. "I can learn some modern techniques in plant breeding that I can use in Indian crops to develop new varieties," Rajashekar says.

From Cornell's facilities and infrastructure to punctual buses and a vast library system, the students are impressed. "You can take out 400 books" at a time, and "every department has its own library," remarks Saxena.

The program is funded by a five-year, \$3 million grant from the Navajbai Ratan Tata Trust through the Cornell-Sathguru Foundation for Development, and a matching contribution of up to \$1 million from the foundation.

—Krishna Ramanujan

Sport of Kings Makes Way for a Dean



Dean Henry (center) closes powerfully and wins the \$82,950 Saratoga Dew Stakes by a head over Yet Again (left) and My Dinah (right).

Celebrating the Saratoga victory are (l-r): Jennifer and Larry Goichman, groom Armando Tomas, and jockey Rajiv Maragh.

At the 2009 Saratoga Dew Stakes in Saratoga Springs, N.Y., a race for New York-bred fillies and mares, the smart money proved to be on Dean Henry, a 4-year-old named in honor of CALS Dean Susan Henry.

The filly, owned and bred by Larry Goichman '66, rallied from two lengths behind in the homestretch to win in a thrilling

photo finish, capturing her first-ever stakes race victory. After winning by a head, Dean Henry has now crossed the line first in three of her eight career starts.

"I know she's a closer," Goichman told *The Saratogian* after the Aug. 31 race. "She made a big, big run."

—Ted Boscia



WEB EXCLUSIVE

A Day at the Races

Watch Dean Henry school the field in a come-from-behind victory at the Saratoga Dew Stakes.

calsnews.cornell.edu

Ewephoria!

"Recognition in the cheese world in the United States doesn't get any better than this," says Nancy Clark '62, MEd '64 and her husband, Tom '63, MBA '64. As owners of the Old Chatham Shepherding Company, they are very excited about the prizes their sheep milk cheeses are garnering at major cheese competitions.

For the first time this year, they entered the Dairy Products Competition at the Great New York State Fair, where "Ewe's Blue," a pungent, creamy, blue-veined cheese, and "Nancy's Hudson Valley Camembert," a lush, buttery cheese, both won blue ribbons. "Nancy's Hudson Valley Camembert" proceeded to garner the Grand Championship of all cheeses entered.

The Clarks' cheeses also came up big at the annual American Cheese Society competition in August. "Hudson Valley Camembert Square" took a first and "Nancy's Hudson Valley Camembert" took a second in the soft ripened cheese category for sheep's mixed milk cheeses, while their ricotta took first place in the fresh unripened cheese category.

It was a lifelong dream of Tom's to get back to raising sheep—an activity he had pursued as a young boy. He and Nancy bought 600 acres of rolling farm land in the upper Hudson River Valley, stocked it with 150 sheep, and started the company in 1993. Fifteen years later, with a flock of over 1,000 East Friesian crossbred milking ewes, they run the largest sheep dairy farm in the U.S.

Tom and Nancy are very appreciative of the assistance they have received from former and current CALS faculty including the late Dave Brown, Doug Hogue, Dave Barbano, and Mike Thonney.

"They have all helped us win the awards," said Tom.

—Linda McCandless '74



Nancy and Tom Clark share their joy with a lamb and Lauren Osborn '13, the 2009 New York State Dairy Princess, after winning blue ribbons for their sheep milk cheeses at the NYS Fair.

ALUMNI ASSOCIATION PRESIDENT MESSAGE

Give Back



It's my honor and privilege to lead the College of Agriculture and Life Sciences (CALS) Alumni Association as president for 2009–2010.

As alumni of Cornell and CALS, we have great reason to be proud of our alma mater and the benefits we continue to receive through our affiliation with the college. Consider the countless times your Cornell degree earned you special recognition, landed you that initial job interview, or connected you to a new friend or colleague. Many lucky Cornellians even find love on campus. Considering all that Cornell and CALS has done for us, we all might ask what have we done for Cornell?

Making a financial commitment to Cornell is critical to maintaining the university's viability as a world-class teaching and research institution. Especially in this economy, it's more important now than ever to consider Cornell in your annual giving, just as you would for your local food bank or religious center. Any monetary amount makes a difference, and you can feel confident that a gift to the CALS Annual Fund is used to support the college's priorities and scholarships, which enables students of all financial situations to experience the Cornell we know and love and to fulfill Ezra Cornell's founding mission statement, "I would found an institution where any person can find instruction in any study."

But not all alumni have the financial resources to contribute as much as they would like. Fortunately, there are many other opportunities to support CALS. For example, you can join your local CALS Alumni Association leadership team or Cornell Club, interview high school applicants through the Cornell Alumni Admissions Ambassador Network (CAAAN), host a winter extern or summer intern at your place of work, mentor a recent graduate, attend a local high school career fair to promote CALS, participate on an informational alumni panel, join the Alumni Career Link through the college's Career Development Office, or volunteer to organize or host a local alumni event. Regardless how much time you have to offer, there is something for everyone. You can even benefit CALS and the university by simply mentioning Cornell in your everyday dealings. With more than 50,000 CALS alumni throughout the globe, you shouldn't underestimate the networking power of your Cornell degree.

Next time you update your budget, make plans for the weekend, or strike up a conversation, be mindful of your Cornell roots and seek out ways to contribute to the college. From assuming a leadership role to making a simple gesture or comment, you can make a difference in the future of Cornell and CALS. I encourage you to just give back!

Jim Alves '01

2009–2010 CALS Alumni Association President

BIO

Jim Alves '01 is the newly elected president of the CALS Alumni Association, the youngest alumnus to serve in this capacity.

Born into a Portuguese immigrant dairy family in Northern California, Alves was the first in his family to graduate from college. He set his sights on Cornell during high school when he participated in the Future Farmers of America organization.

While an undergrad, Alves was an Applied Economics and Management major, Cornell Tradition Fellow, peer advisor in the CALS Career Development Office, and a member of the dean's list and Ho-Nun-De-Kah Honor Society. Taking advantage of two study abroad programs, Alves traveled extensively, visiting more than 16 countries across five continents.

Following graduation from Cornell, Alves worked in operations for an investment bank before entering the government sector. For the last six years, Alves has lived and worked in and around Sacramento, California. Currently the assistant secretary for the California Health and Human Services Agency in Governor Schwarzenegger's administration, he represents 13 state health and welfare departments with a total budget of more than \$82 billion.

Alves's passion for Cornell and CALS drew him to alumni events even before he graduated. He joined the local CALS leadership team in Northern California in 2001 and assumed the director-at-large position for Northern California in 2005. Since that time, he has been an active member of the CALS Alumni Association board of directors, serving in key leadership roles. Alves helped lead the organization through many milestones, including the development of its new five-year strategic plan and the college's centennial celebration.

Yet Alves is most proud of his efforts and achievements in college recruitment. Since graduating in 2001, Alves has volunteered countless hours to attend career shows, awards banquets, and conferences to promote CALS to high school students, teachers, and guidance counselors to recruit the best and brightest students on the West Coast and share his knowledge about Cornell and the college.

1940s

A. Dewey Bond, MS '48 of Great Falls, Va., retired after 40 years with the American Meat Institute. He serves on the board of directors of Fairfax Water, Virginia's largest water utility.

1950s

George L. Casler '50, MS '59 of Ithaca, N.Y., retired in 1995 as an emeritus professor. He and his wife, Pat, have traveled extensively overseas. They have three sons: Bill, Don, and Dale. Casler maintains contact with other faculty members in the Department of Applied Economics and Management and with other emeriti faculty members in CALS.

Conrad J. Kercher, MS '52, PhD '54 of Laramie, Wyo., and his wife, Lydia, celebrated their 63rd wedding anniversary on September 7. Kercher taught in the University of Wyoming's Animal Science Department for 42 years, while Lydia taught in the College of Education for 22 years. *Correction: In the fall 2007 Alumni News Notes, Kercher's wife was inadvertently listed as Lynda. We regret and apologize for the error.*

Michael Rullson '53, MS '54 of Raleigh, N.C. is a research analyst at Research Triangle Institute and at North Carolina State University.

Dana G. Dalrymple '54, MS '56 of Washington, D.C., retired from federal service after 46 years as an agricultural economist with the Foreign Agricultural Service of the U.S. Department of Agriculture. For the last 36 years, he was on detail to the U.S. Agency for International Development (USAID), where he served as senior research advisor in the Office of Environment and Science Policy. He focused on USAID support for, and involvement with, the Consultative Group on International Agricultural Research (CGIAR) and its 15 centers.

Paul C. Marcus '59, MS '60 of Greenwich, Conn. is the president/owner of Paul Charles, Ltd.

1960s

John G. Clarke, MS '64 of Venice, Fla., enjoyed a summer visit to Ithaca last year with his wife, Fitri, and son, Jos. He continues to enjoy retirement and highly recommends Bud Stanton's new book on George Warren for a good nostalgic read.

Barry L. Batzing '67 of Cortland, N.Y., retired in August after serving on the SUNY Cortland faculty for 36 years. Batzing joined SUNY Cortland's faculty in 1973 in the Biological Sciences Department. He has earned the designation of professor of biological sciences emeritus. He was honored in 1981 with a SUNY Chancellor's Award for Excellence in Teaching.

William W. Huling, Jr. '68, MBA '74 of Ithaca, N.Y., was named interim associate dean of Alumni Affairs and Development at the Johnson Graduate School of Management in May, 2009. Huling has more than 21 years of experience in university alumni affairs and development, serving most recently as a major gifts officer.

ALUMNI NOTES

Michael F. Hogan, PhD '69 of Delmar, N.Y., is the New York State Commissioner of Mental Health. He recently spoke to social workers, caretakers, and community supporters at the annual meeting of Family and Children's Service of Ithaca. He congratulated the organization for providing outstanding local family-based services.

William D. Perez '69 of Chicago, Ill., was recently elected to the board of directors of the Campbell Soup Company. Perez is a former CEO of Wm. Wrigley, Jr., Company and is a trustee of Cornell University. He has served on numerous boards throughout his career including Wrigley, Hallmark Cards, Kellogg Co., and Nike, Inc. Perez succeeds Kent Foster, who retired from the board in March 2008.

1970s

Arthur M. Shapiro, PhD '70 of Davis, Calif., was recently named Distinguished Professor of Evolution and Ecology at the University of California-Davis, where he has taught for 38 years.

Ronald E. Yasbin, MS '70 of St. Louis, Mo., was named dean of the College of Arts and Sciences at the University of Missouri-St. Louis. Yasbin, a noted microbiologist, is a former dean of the College of Sciences at the University of Nevada-Las Vegas. He began serving as dean in St. Louis in August.

Elizabeth L. Bauman '73 of Ithaca, N.Y., is a freelance writer/editor/photographer and has published a photo book about Ithaca titled, *Ithaca—the City, Gorges, and Colleges*. The book has been selling well at Cornell and bookstores around Ithaca, as well as online. Bauman and her husband, Tony Ingraham '69, have a publishing company called Owl Gorge Productions (<http://owlgorge.com>).

Robert W. Perciasepe '74 of Baltimore, Md., was nominated in May by President Obama for the position of deputy administrator with the Environmental Protection Agency. Perciasepe has over 30 years of experience in environmental and natural resources management and legislative and government affairs. In addition to his bachelor's degree from CALS in natural resources, he holds a master's degree in planning and public administration from the Maxwell School of Syracuse University.

1980s

Eric W. Crawford, PhD '80 of East Lansing, Mich., recently returned to international work as co-director of the Food Security Group at Michigan State University. Prior to taking on this new role, Crawford was director of graduate studies for 14 years.

Hugh R. Alley '82 of Burnaby, B.C., Canada, joined Alco Ventures in November 2007. He and his wife, Diana, have two children, Ted and Rebecca. He has enjoyed learning the ins and outs of competitive sprint kayaking and cycling.

Lisa Avazian Saunders '82 of Suffern, N.Y., is a writer with SUNY Rockland. She recently joined efforts with the Centers for Disease Control and Prevention to raise awareness of congenital CMV (cytomegalovirus), which is the #1 cause of birth defects. Her latest book, *Anything But a Dog!*, was published by Unlimited Publishing LLC.

Brian K. Swardstrom '84 of Los Angeles, Calif., is an agent and producer in Hollywood. Actress Tilda Swinton dedicated her academy award to him when accepting her 2008 Oscar for Best Supporting Actress in the film *Michael Clayton*.

Kathryn L. Kotula, PhD '88 of Storrs, Conn., was awarded the 2009 Dr. Carl R. Fellers Achievement Award from the Institute of Food Technologists during their annual meeting in June 2009. The award is bestowed for "service to the field of food science and technology; and for bringing honor and recognition to the professor of food science and technology." She studied under Robert C. Baker.

1990s

Natalie Schwartz Mariuzza '91 of Mount Kisco, N.Y., had her first book published in September 2008. It is called *The Teacher Chronicles: Confronting the Demands of Students, Parents, Administrators, and Society* (www.laureltonmedia.com).

Carol C. Loeffler, PhD '92 of Carlisle, Pa., is an associate professor of biology at Dickinson College. She recently received the distinguished teaching award. It is the highest honor given to a Dickinson faculty member. Loeffler earned her PhD in ecology and evolutionary biology in CALS and holds a bachelor's degree in biological sciences from Smith College.

Gregory C. Robillard '95 of Boston, Mass., had his debut novel, *Captain Freedom—A Superhero's Quest for Truth, Justice, and the Celebrity He So Richly Deserves*, published by Harper Collins. Since graduating, Robillard has worked in a rock-climbing gym, as an environmental consultant, and most recently as a contributor to Comedy Central's *Indecision 2008*, before writing his first novel.

Signe Freiberg Whitson '95 of Allentown, Pa., recently co-authored *The Angry Smile: The Psychology of Passive Aggressive Behavior in Families, Schools, and Workplaces, 2nd edition* and is collecting real-world examples of passive aggression at: www.passiveaggressivediaries.com. She and her husband, Richard, have two daughters, Hannah (6) and Ellie (3).

Hamish R. Gow, MS '97, PhD '00 of Urbana, Ill., has been an associate professor in international food marketing at Michigan State University since June 2007. Most recently, he has been collaborating with the CIES Global Food Safety Initiative, UNIDO, and USAID to establish the Food Safety Knowledge Network.

Christopher M. Nobles '97 of Saranac Lake, N.Y., took over as manager of the Cornell University Uihlein Seed Potato Farm in Lake Placid in May 2007.

David I. Fleishman '98 of Livingston, N.J., and his wife, Amy Catalfo Fleishman '99 (HuEc), welcomed their second son, Matthew, on March 8, 2009, which coincided with their move to Livingston, N.J.

2000s

José E. Gobbée, MS '00 of Buenos Aires, Argentina, has formed a new company called Global Seed Solutions jointly with Illinois Crop Improvement Association to provide winter nursery services to seed companies. He and his wife, Soledad, recently vacationed with their four sons, Clara, Tomas, Pedro, and Marcos.

Juljeta Maria Frank, MS '02 of Winnipeg, Manitoba, Canada, is a member of the Department of Agribusiness and Agricultural Economics at the University of Manitoba. She recently taught a course on agribusiness management. She has enjoyed exploring her new city.

Lauren Schulke '05 of Baltimore, Md., is currently studying at John Hopkins University for her PhD in biochemistry and molecular biology.

Joseph A. Schultz, MS '05 of Washington, D.C., is a legislative assistant to Senator Sherrod Brown.

Joanne L. Cooper '07 of South Glens Falls, N.Y., is currently living on Long Island, attending a Masters Physicians Assistants Program at New York Institute of Technology. She is slated to complete that in 2011.

Megan E. Cartner '08 of Ithaca, N.Y., completed her MBA at Ithaca College this summer. She recently wed Michael D. Bradley, a 2007 graduate of Alfred State University. The couple was married on September 12, 2009, in Sage Chapel and honeymooned in Switzerland.

Nathan L. Sermonis '08 of Bath, N.Y., is an aide to Congressman Eric Massa. Sermonis is responsible for agriculture issues for the congressman, who is a member of the Agriculture Committee of the House of Representatives.



Cornell Sheep Program BLANKETS

Created from the wool of Cornell Dorset and Finnsheep breeds and their crosses, these blankets are ideal for football games and cold nights, and as gifts for graduation, wedding, birthday, Christmas and other occasions. Red stripes near each end and red binding accent the 100% virgin wool. Your purchase of blankets helps to support the Cornell Sheep Program, and \$10 from each sale goes to an undergraduate scholarship fund.

Each blanket is individually serial-numbered on the Cornell Sheep Program logo label and comes with a certificate of authenticity.

Lap robe (60 x 48 inches, 1 stripe)	\$80
Single (60 x 90 inches, 3 stripes)	\$111
Double (72 x 90 inches, 3 stripes)	\$122
Queen (78 x 104 inches, 3 stripes)	\$149

Add 8% New York State sales tax and \$8 per blanket for shipping

Additional information about the blankets is available at:
www.sheep.cornell.edu (click on "blankets")

Purchase at the Cornell Orchards, the Cornell Dairy Store, or from the Department of Animal Science in 114 Morrison Hall, Cornell University, Ithaca, NY 14853-4801 or by telephone (607-255-7712), fax (607-255-9829), or email csblankets@cornell.edu.

Outstanding Alumni Awards

The College of Agriculture and Life Sciences and the CALS Alumni Association will recognize the following individuals at a banquet at the Statler Hotel on November 6, 2009. Of more than 80,000 CALS alumni, since 1977 only 201 have been recognized with this awards program. The winners represent a wide range of interests and accomplishments, and each has strong roots in the college. Each has achieved success in business, professional, or other vocational endeavors; shown leadership on behalf of the College of Agriculture and Life Sciences and Cornell University; and made a significant contribution to the betterment of society through community service.

Brief biographical sketches of each recipient are included here. More information is available at calsnews.cornell.edu

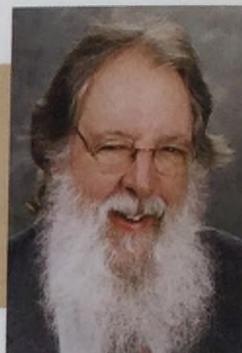


Ruth Zimmerman Bleyler '62 retired in 2008 from the New Hampshire House of Representatives, serving since being elected in 2002, where she focused on environmental and disability issues. Before taking office, Bleyler worked as an environmental scientist with the U.S. Environmental Protection Agency (EPA) from 1990 to 1997 and as a quality assurance chemist with Viar and Company from 1985 to 1990. Earlier, she was a science and math teacher at several schools including the Potomac School in McLean, Va.; Mary Institute in St. Louis; and Punahou School in Honolulu.

Bleyler has been a committed volunteer for Cornell for more than 20 years, serving as reunion chair for the Class of '62 and as a member of Cornell University Council. With her husband, Pete, she has been a faithful supporter of Cornell Plantations and is currently a member of the Plantations Advisory Council. Bleyler has served on the Cornell Alumni Federation board and has been a leader for the Cornell Alumni Admissions Ambassador Network (CAAAN). Bleyler also volunteered on her Regional Tower Club Committee in Boston and New Hampshire and held leadership and fundraising positions with the Cornell Club of Boston, Cornell Club of Washington, and Cornell Club of New Hampshire.

Bleyler has been a committed volunteer to better her community, working with the Special Olympics, developmental disabilities and behavioral health issues, school boards, and environmental concerns.

She and Pete live in Lyme, N.H. They have three children: Allison Bleyler McDonald, MBA '92; Melanie Starr Bleyler '92 (A&S); and Tracy Lynn Bleyler.



Roy Curtiss III '56 is director of the Center for Infectious Diseases and Vaccinology at Arizona State University and professor of life sciences. Curtiss is a world-renowned geneticist, developing recombinant attenuated bacterial vaccines against agricultural and human pathogens. He is the leader in the use of genetic and gene cloning approaches to study bacterial and viral pathogens, and he pioneered the development of plant-based vaccines. Curtiss served as chair of biosciences departments at the University of Alabama-Birmingham and Washington University in St. Louis. He has worked at two U.S. national laboratories: Brookhaven and Oak Ridge. He also formed two biotech companies. Curtiss is well-known for the development of vaccines that control Salmonella contamination of poultry products.

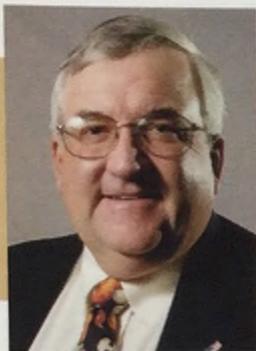
Curtiss holds an extensive list of patents, has developed three licensed vaccines, and has conducted over 60 grant-funded research projects. He has served as a founder, board member, and/or science advisor for numerous biotech, pharmaceutical, vaccine discovery, and agricultural start-up companies around the world.

Curtiss is a member of the National Academy of Sciences. In 2005, he was a recipient of a research grant award from the Bill and Melinda Gates Foundation for the Grand Challenges in Global Health Initiative.

Curtiss's Cornell involvements include his long-time support of the Class of 1956 and as a member of the CALS Alumni Association.

Curtiss and his wife, Josephine Clark-Curtiss, reside in Paradise Valley, Ariz., and have seven children.

Outstanding Alumni



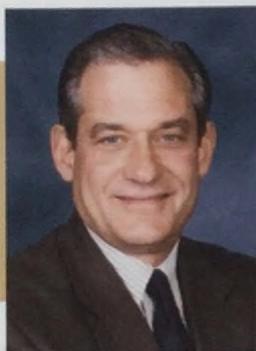
Lawrence K. Eckhardt '80 is co-owner of Capital Area Agricultural Consulting, Inc., with his wife, Heather, working with clients in eastern New York and western New England. He is also president of Kinderhook Creek Farm, Inc., a fresh-market vegetable, field crop, and beef operation.

As president of the New York State Vegetable Growers Association for more than 18 years, Eckhardt has been an articulate spokesperson, providing guidance for the vegetable industry and state government. Eckhardt is a graduate of the LEAD-NY program. In 2000–2001, Eckhardt led a team to secure \$200,000 for the NYS Seed Testing Laboratory at the Geneva Experiment Station. He has served on the CALS Advisory Council and Cornell Cooperative Extension (CCE) of Rensselaer County's Agriculture Program Committee. Eckhardt is currently a director for the New York Agricultural Innovation Center.

He is a founding director and member of the board of directors of the New York Farm Viability Institute (NYFVI) and an active member of the New York State Farm Bureau. He also has served as a member of the Council of Agricultural Organizations (CAO) and as a longstanding member of the New York State Agricultural Society. In addition, he teaches vegetable marketing as a guest lecturer at SUNY Cobleskill, and meets with the Cornell Dairy Fellows Program on its trips to eastern New York.

On the international level, Eckhardt promotes the state's vegetable industry at the annual Produce Marketing Association's International Exposition.

Eckhardt lives in Stephentown, N.Y., with Heather. They have two children: Matthew '09 and Andrew.



Gene D. Resnick '70, MD '74 is chief medical officer and executive vice president of Averion International Corporation, a leading international clinical research organization specializing in oncology, cardiovascular diseases, and medical devices. He directs pharmacovigilance reporting and medical monitoring. Resnick was also the founder of Millennix, Inc., a clinical research organization focusing on oncology research, which formed one of the component companies of Averion International.

Prior to joining Averion, Resnick was vice president of clinical research-oncology at the Schering-Plough Research Institute and was vice president of medical affairs at In Vivo, Inc.

Resnick received his medical degree from Weill Cornell Medical College in 1974 and was an assistant attending physician, taught, and conducted research there.

Resnick has served on the Cornell University Council since 1991, the CALS Dean's Advisory Council from 2001–2008, and the Life Sciences Advisory Board. He was vice president of the Cornell Alumni Federation and is immediate past president of the Weill Cornell Medical College (WCMC) Alumni Association. Resnick also has served as a Cornell Association of Class Officers representative for WCMC, board member of the Cornell Medical Alumni Association, and member of the *Cornell Daily Sun* Alumni Board.

Resnick is a member of many organizations and recently served as chairperson of the Jewish Home & Hospital Lifecare.

He lives in White Plains, N.Y., with his wife, Susan Goldman Resnick. They have two sons: Bradley Resnick '06 and Matthew Resnick '01.



Stephen E. Teele '72 is a county legislator in St. Lawrence County, serving in this role for 17 years, where he also acts as the assessor for the Towns of Canton and Hammond, N.Y. Teele currently is chairman of the Assessors of St. Lawrence County. Since 1977, he has owned and operated Teele Farms, a 100-acre dairy, corn, and soybean farm in Lisbon, N.Y.

Earlier, Teele was as a regional organization director with the New York Farm Bureau. He later worked as a farm loan officer with Oneida National Bank.

Teele was elected in 1994 as chairman of the board of legislators and also was chairman of their agricultural committee for 19 years. He was a member of the Lisbon Central School Board for 17 years and a town justice. Teele was elected to the Board of Cooperative Educational Services, serving on that board for 15 years.

As a widely respected community leader, he was recognized with the Outstanding Young Farmer Award in 1979 for New York and was given the first Dairy of Distinction Award in St. Lawrence County in 1984.

A lifetime member of the CALS Alumni Association, Teele served as both president (1991–1992), and vice president (1989–1990). Through Teele's effective leadership, the Alumni Auditorium campaign surpassed its goal of \$500,000, raising \$750,000 for the construction and completion of the auditorium in Kennedy Hall. Teele is a member of the Liberty Hyde Bailey Leadership Society and Cayuga Lodge and served as a member of Cornell University Council from 1993 to 1997.

Teele lives in Lisbon, N.Y., with his wife, Gail. They have two sons: Jonathan and David.

Awards *(continued)*



YOUNG ALUMNI ACHIEVEMENT AWARD

Jonathan L. Licker, MS '98, PhD '99 is a research and development manager at Frito-Lay, Inc. Licker has had a successful career as a food scientist product developer and now works on the team that develops the flavors and seasonings for the multibillion-dollar megabrands including Lays, Doritos, Cheetos, Fritos, and Tostitos.

Licker has been a leader in creating and developing programs to attract students to food science. He has organized the PepsiCo-sponsored Institute of Food Technologists' Student Association Mixer, where students and their faculty members meet and mingle with industry professionals.

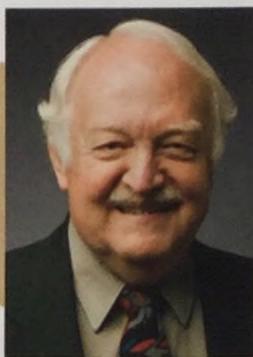
Since 2003, Licker has worked with Martin Wiedmann, associate professor of food microbiology, to secure funding from the PepsiCo Foundation in support of Cornell's Summer Scholars Program.

Licker has been a member of the Cornell Institute of Food Science Advisory Council since 2003. He has served as an Institute of Food Technologists (IFT) ambassador and has been the Cornell recruiter for Frito-Lay.

He has been a guest lecturer, returning many times to speak to Cornell students. In 1996, he developed and presented the Flavors & Sensory Workshop for High School Seniors. He continues to guest lecture to high school students in the Dallas area and volunteers as a judge for the local middle school science fair.

Licker has been actively involved in his local community, leading fund-raising efforts with the local United Way in Collin County.

He and his wife, Susan Connell Licker, MS '96 (Food Science), reside in McKinney, Texas, with their two sons.



OUTSTANDING FACULTY/STAFF AWARD

Brian O'Hara Earle '67, MPS '71 taught in the Department of Communication for nearly 40 years, retiring in 2008. He also was advising coordinator for his department for nearly 30 years and the department career representative. He is presently working part-time for the Departments of Communication and of Applied Economics and Management.

Earle developed and taught many popular courses, including COMM 301: Business & Professional Presentation and COMM 476: Communication Fellows, which took seniors to New York City to study corporate culture. After retirement, Earle returned to develop and teach a new course, AEM 4940: Ethics in Business.

Earle also has served as director of LEAD-NY and as director of the CALS Career Exploration Program. He was instrumental in the development of the American Indian Program, the North Campus Program houses, and the Carol Tatkon Center. He was co-chair of the CALS Centennial Planning Committee.

Earle is the only faculty member ever to have received all four top teaching and advising honors in CALS: the Louis and Edith Edgerton Career Teaching Award (2004), the Kendall S. Carpenter Memorial Advising Prize (2003), the Professor of Merit (1998), and the Donald C. Burgett Distinguished Advisor Award (1997). He also received the SUNY Chancellor's Award for Distinguished Teaching (1991) and was selected by three Merrill Scholars as their most influential teacher.

Earle lives in Freeville, N.Y., with his wife, Jody. They have two sons, Evan Earle '02 and Corey Earle '07.



OUTSTANDING FACULTY/STAFF AWARD

Larry P. Walker is a professor in the Department of Biological and Environmental Engineering (BEE) and director of the Northeast Sun Grant Institute of Excellence.

Joining the Cornell faculty in 1979, Walker led several research projects on converting biomass to energy, including the Integrated Energy Efficient Dairy Farm (aka: The Space Farm). This project involved two CALS alumni: the late Ronald Space, Sr. '53 and Ronald Space, II '81.

Known as an outstanding mentor and teacher, Walker was recognized in 2006 with the Alice H. Cook and Constance E. Cook Award and in 1997 with the Stephen '57 and Marilyn Miles College of Engineering Outstanding Teaching Award.

Walker organized faculty from three colleges into the Sustainable Agriculturally Based BioIndustries Cluster (SABBIC), which is now the Northeast Sun Grant Institute of Excellence. As director, he leads a 14-state, research and economic development competitive grants program focused on biofuels and bioproducts. He also is the director of the new Biofuels Research Laboratory in Riley-Robb Hall.

Walker has received the New York Science, Technology, and Academic Research (NYSTAR) Faculty Development Award, the Distinguished Alumni Award from the Department of Biological and Agricultural Engineering at Michigan State University, and the Outstanding Alumnus Award from the College of Agriculture and Natural Resources at Michigan State University.

Walker lives in Ithaca, N.Y., with his wife, Nadine, and daughters Leah and Lynne.

End Note

Max Seibald '09 Shines in Senior Season at Cornell

In May, Cornell men's lacrosse star Max Seibald and his senior teammates had to miss their graduation. At least they had a good excuse: The team was preparing to face upstate rival Syracuse University for the 2009 NCAA Championship the following day.

The Big Red came within four seconds of the title before the Orange netted a game-tying goal en route to a 10-9 overtime victory. Cornell's near-miss was oddly familiar. As a sophomore, Seibald led an upstart team that advanced to the NCAA semifinals, only to allow the game-winning goal to Duke University with four seconds on the clock.

Despite falling just short to Syracuse, Seibald is satisfied with the accomplishments of the team, which included 10 seniors from CALS. "I'm proud of every one of [our players], and I wouldn't trade this group of guys for a national championship," Seibald said moments after the May 25 game. "The experience I've had with these guys for the last four years and this last year, I wouldn't trade it for a ring."

Seibald had reason to celebrate three days after the NCAA

Championships when he was named the winner of the 2009 Tewaaron Trophy as the nation's premier lacrosse player. He is the first Cornellian to win the award and holds the record for career goals by a Big Red midfielder. During his standout career, the applied economics and management major earned many other honors for his achievements in the classroom, in the community, and on the playing field.

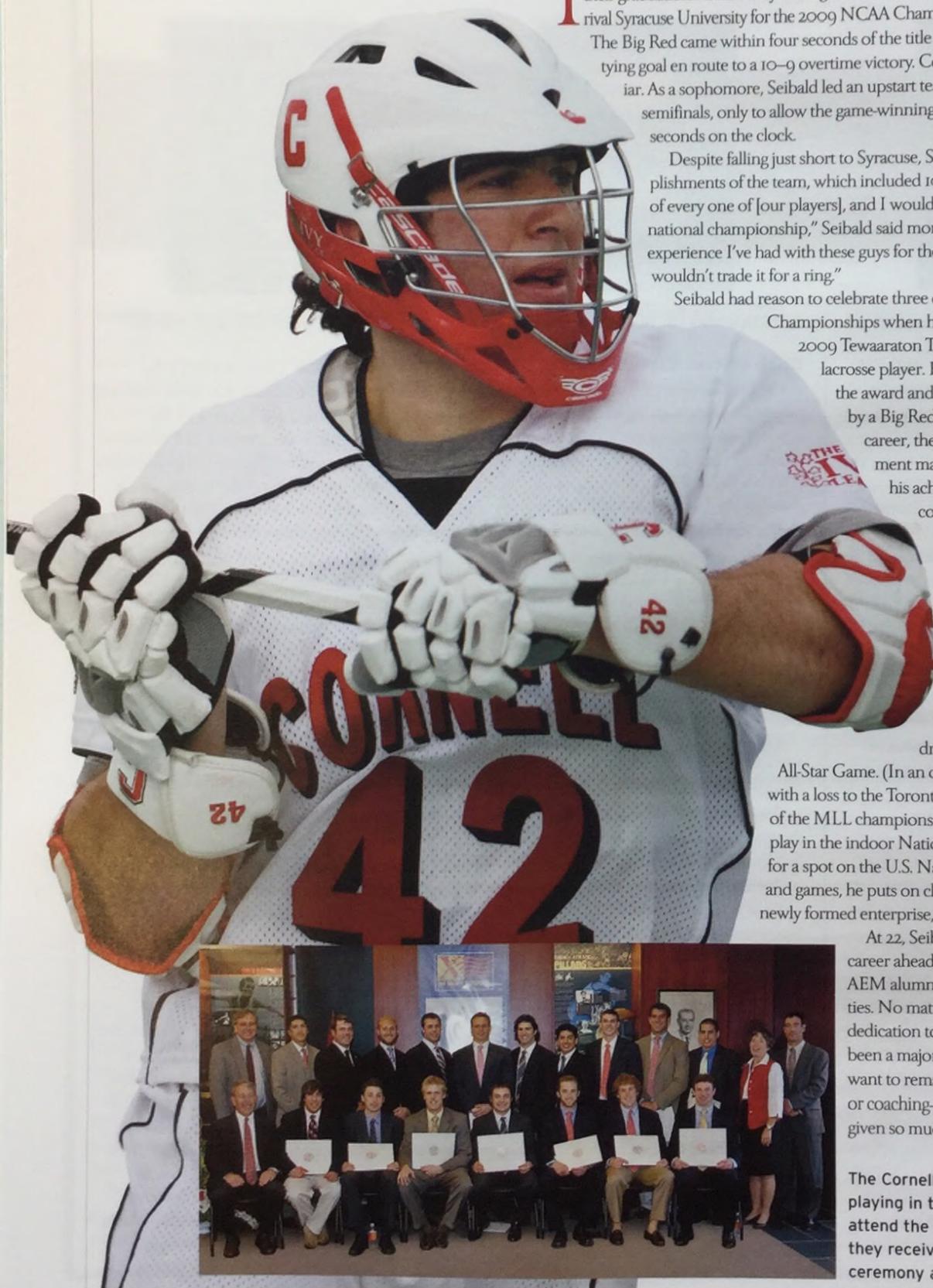
"To win the Tewaaron, it took a great season from our team," Seibald says. "Even though it's an individual award, it was the team that lifted me up for it."

After the season, the Denver Outlaws made Seibald the second overall pick in the 2009 Major League Lacrosse (MLL) draft, and he went on to appear in the All-Star Game. (In an odd twist, his first pro season ended with a loss to the Toronto Nationals in the closing seconds of the MLL championship game.) He's now preparing to play in the indoor National Lacrosse League and competing for a spot on the U.S. National Team. In between practice and games, he puts on clinics for youth players under his newly formed enterprise, Maximum Lacrosse Camps.

At 22, Seibald hopes to have a long lacrosse career ahead of him. He is also talking to fellow AEM alumni about possible business opportunities. No matter what path he chooses, he says his dedication to the sport won't fade. "Lacrosse has been a major part of my life since I was a kid. I want to remain involved—whether it's playing or coaching—and give back to a game that's given so much to me."

—Ted Boscia

The Cornell men's lacrosse team was playing in the NCAA finals and unable to attend the May 24 commencement, so they received their diplomas in a special ceremony after the finals.



CREATIVE WAYS TO GIVE

Charitable gifts provide essential support for the College of Agriculture and Life Sciences each year. The following examples show opportunities to support the College by addressing tangible needs such as equipment, travel funds, scholarships, furniture, and more.

The CALS Development Office is available to discuss various giving options, including gifts of stocks, securities, planned giving opportunities, and to answer your question about gifts to endowment. For more information or to make a gift in support of one or more of these priority needs, please contact Mike Riley, Associate Dean for Alumni Affairs, Development and Communications, College of Agriculture and Life Sciences at (607) 255-7635 or mpr2@cornell.edu.

CALS Annual Fund Needs You

The College of Agriculture and Life Sciences relies greatly upon the generosity of alumni and friends. Gifts of all sizes are important to providing critical budget and program support. Join us in showing your support for faculty, students, and programs. Give now!

Connect with a Smart Board

Purchase an interactive smart board, a portable device that attaches to a standard dry-erase board and turns it into a copy board with computer connectivity. Data, notes, or drawings can be written on the whiteboard and then saved, printed, emailed, or faxed from the computer. \$950 (Food Science)

It Does Compute

Purchase a new computer for the department's graduate student computer lab. \$1,200 (Applied Economics and Management)

How Old Is that Tree?

Purchase an increment borer, an instrument used in forest science to extract tree cores for measurements of tree age and growth. Borers are used regularly for class field trips and for individual and independent student projects. \$600 (Natural Resources)



Send a Student Overseas

Support an Agricultural Sciences undergraduate to experience an international agriculture internship. \$2,000 (Crop and Soil Sciences)

Earn Bragging Rights

Send an award-winning team of students to compete for a national title for the best new food product in the U.S. at the annual meeting of the Institute of Food Technologists. \$9,000 (Food Science)

Friends of Fall Creek

Support a new student organization committed to balancing student safety with recreational access in the campus gorges. \$5,000 (Natural Resources)

Save the Vertebrates

Help save the irreplaceable mounted birds and mammals used for teaching vertebrate biology in Stimson Hall. Purchase a display case and fund a conservator's work on its specimens. \$5,500 (Ecology and Evolutionary Biology)

Have a Seat

Purchase 30 classroom chairs for a new teaching laboratory in Kennedy Hall. \$3,500 (Landscape Architecture)

Laptops Lacking

Provide laptops for eight undergraduate honors research students. \$8,000 (Communication)

Clean, Pure Water

Help develop ways to protect water quality and teach the next generation of professionals working for this protection by funding geographic information systems (GIS) and computational facilities. \$18,000 (Biological and Environmental Engineering)

A 'Mean' Request

Purchase statistical software for graduate students who are researching economic issues related to agriculture, the environment, and international development. \$500 (Applied Economics and Management)

Neighborhood Nature

Fund a summer undergraduate or graduate student to investigate how neighborhood nature initiatives in cities—from watershed alliances to community gardens—are impacting communities and the environment. \$3,500 (Natural Resources)

Psyched about Food

Sponsor two full-year undergraduate research projects for the Food and Brand Lab. \$23,000 (Applied Economics and Management)

Books for Minority Scholar

Provide a book award for a historically underrepresented minority student in the Biology Scholars Program. \$500 (Biology)

Insects, Insects Everywhere

Support Insectapalooza 2010, the Department of Entomology's open house, which attracts as many as 3,000 visitors each year. \$5,000 (Entomology)

I Can See Clearly Now

Provide 10 laptops for a new "virtual drawing board," a large vertical flat-screen computer on which students can load drawings and electronically edit them. \$18,000 (Landscape Architecture)



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