Inside:
Agronomy researchers are finding ways for conventional and transgenic crops to grow side by side.
Greetings Agronomy Alumni:

For over a century, alumni like yourself have created a reputation of excellence for Iowa State Agronomy through significant contributions to the science of agronomy around the world. It has been a pleasure hearing from you this year and learning how you are keeping this tradition alive through your work. Your comments about “The Iowa State Agronomist” are also very valuable as we try to provide you with useful information from the department. I am glad to hear you are enjoying the publication and hope to hear more from you in the coming year.

This year has seen several comings and goings among the faculty. Keith Whigham retired in June after serving as an extension soybean agronomist since joining the faculty in 1977. Ken Ziegler, who also joined the department in 1977, retired as coordinator of the corn hybrid testing and the popcorn breeding programs; and Tom Fenton, professor of soil morphology and genesis, retired after 43 years at Iowa State. Each has made substantive contributions to the department, university, and state of Iowa, and we wish them well in the next phase of their lives.

Jeff Wolt joined the faculty this year as a biotechnology risk analyst to study risk factors surrounding the development and deployment of transgenic crops. Read more about him on page 13. Jode Edwards joined us as a new USDA-ARS collaborator, and Antonio Perdomo, a plant physiologist at Pioneer became a collaborator as well. We look forward to working with all these individuals. Finally, I am pleased to announce that Roger Elmore will join the faculty July 1, 2005 as our new extension corn specialist. He currently is extension agronomist at the University of Nebraska, Lincoln. Elmore brings a wealth of experience and capabilities that will make an excellent addition to our already strong extension team.

Our faculty continue to be recognized as leaders in their fields and are asked to serve the university as well as their disciplines. Ricardo Salvador, associate professor of sustainable agriculture, is serving as interim director of the ISU Honors Program. Rick Cruse, professor of soil science, has been tapped by College of Agriculture Dean Woteki to take the leadership of a new college-wide initiative in agroecology and water quality. This initiative will focus on agroecological/production zone mapping, the development of a “potential crops” database for Iowa, temporal and spatial management in agriculture, and watershed design. Ken Moore is now past president of the Crop Science Society of America, and I am currently president-elect of the same society, continuing the strong tradition of national leadership in the department. I can’t possibly list all of the faculty accomplishments here, so please see pages 14-15 for a more complete report.

Our endowment continues to help us support students and generate innovative research, such as the project featured on our cover. On page 10 learn about how Agronomy researchers are studying pollen drift and separation distances necessary for preserving the identity of crops.

I really enjoy receiving your e-mails and letters. But I also hope to have a chance to see many of you in person at the alumni tailgate on Sept. 10 at Jack Trice Stadium. Please make plans to join us to enjoy the festive game-day atmosphere and fellowship with our Agronomy family. Also, please continue to send me your comments. I can be reached at agron@iastate.edu or by mail at 2101 Agronomy Hall Ames, IA 50011.

Sincerely,
Steven L. Fales, Chair
ISU AGRONOMY REAPS NATIONAL AWARDS FROM ASA/CSSA/SSSA

The Iowa State University Agronomy Department was presented with numerous national awards at the 2004 annual meetings of the American Society of Agronomy (ASA), Crop Science Society of America (CSSA) and Soil Science Society of America (SSSA) Oct. 31 – Nov. 4 in Seattle, Wash. Several Iowa State students also were honored at the national meetings. Leslie Westgate, Agronomy senior, won the ASA-CSSA-SSA student manuscript contest and placed third in the student research symposium poster contest. Nathan Levan, senior in Agronomy, placed fifth in the manuscript contest and Jason Haegele, senior in Agricultural Engineering and Agronomy, placed fourth in the student speech contest.

AGRON GRAD STUDENT ELECTED PRESIDENT OF NATIONAL AG MINORITY ASSOCIATION

Iowa State University Agronomy Graduate Student Aaron Jeffries was elected president of the national graduate student chapter of Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS) at the association’s annual conference March 25-27 in Des Moines, Iowa. Jeffries is from St. Louis, Mo. and is pursuing a Ph.D. in crop production and physiology under the direction of Jerry Hatfield.

GRAD STUDENTS GUTIERREZ, OLMSTEAD EARN LAND INSTITUTE FELLOWSHIPS

Lucia Gutierrez, Ph.D. student, and Julia Olmstead, a M.S. student, were named Natural Systems Agriculture Graduate Fellows 2004 by The Land Institute. Gutierrez is working with John Luc Jannink in plant breeding and John Nason in ecology and evolutionary biology. Julia Olmstead is working with Charlie Brummer in sustainable agriculture.
SOILS TEAM EARN TRIP TO NATIONALS

The ISU soil judging team earned a trip to the national competition in 2005 by placing third overall at the American Society of Agronomy regional soil judging contest this fall at the University of Nebraska. The ISU team earned first in the group judging event and four of the students ranked among the top ten in the individual competition. The team consists of Amber Anderson, a junior in Plant Health and Protection from Cherokee; Adam Peterson, a sophomore in Agronomy from Boone; Kylie Gray; a junior in Agronomy from Murray; Ann Rossi, a senior in Agronomy from Red Hook, New York; John Hammerly a sophomore in Agronomy from Newton; Leslie Westgate a senior in Agronomy from Ames; Brett Peelen a senior in Agronomy from Sanborn; Jon Matz a senior in Agronomy from Algona; and John Sheriff a senior in Agronomy and Ag Systems Technology from Goodell. John Sandor, Agronomy professor, and Dan Nath, Agronomy graduate student, coach the team. The national contest will be held in April at Auburn University.

CROPS TEAM PLACES THIRD AT NATIONAL COMPETITION

The Iowa State crops team placed third April 23 at the National Association of College and Teachers of Agriculture (NACTA) crops contest. The team of Agronomy undergraduates placed second on the math exam portion of the contest and third in the lab practical, in addition to its third place overall finish. The contest took place in Monmouth, Ill. Team member Mary Gilles of Lodi, Wis. earned fourth place in the individual competition and Luther Roit of Ohiowa, Neb. finished seventh individually. Aaron Nelson, Linn Grove, earned second place honors in the math exam and tenth as an individual. Other team members were Andrew Michels of Green Mountain; Matthew Klein of Remsen; Ryan Schnoes of Remsen; Paul Reicks of Lawler; and Jason Haegele of Davenport. Lance Gibson, associate professor of Agronomy, coaches the team. The Iowa Crop Improvement Association supports the team.
“AGRONOMY FEEDS THE WORLD” FOOD DRIVE

The ISU Agronomy Department revisited a motto from its past in hosting a food drive – “Agronomy Feeds the World” – for the Ames Food Bank Dec. 13-17. The food drive was organized by the Agronomy undergraduate and graduate student clubs. Faculty, staff, and students donated generously during finals week in time for the food to reach those in need before the holidays. Agronomy students Mindy DeVries, Brian Gelder, and Heather Hall are shown at right loading the food to take to the Food Bank.

GRAD STUDENT HEITMAN EARNS PPI FELLOWSHIP

Joshua Heitman, Iowa State Agronomy graduate student, was awarded the 2004 J. Fielding Reed PPI Fellowships from the Potash & Phosphate Institute (PPI). Candidates for the fellowship must be either a M.S. or Ph.D. in soil fertility and related fields. Scholastic record, leadership, and excellence in original research are among the important selection criteria. Heitman is in the early stages of work toward his doctorate degree in soil physics/water resources at ISU. He plans to incorporate field-scale watershed processes encountered by producers, such as nutrient runoff, into his Ph.D. research. Heitman’s goal is to develop a research program that can help producers overcome applied agronomic problems while achieving environmental responsibility.

WARDYN RECEIVES C.R. WEBER AWARD

Brandon Wardyn received the 2004 C.R. Weber Award for Excellence in Plant Science. He has a GPA of greater than 3.5 and has published an article in Crop Science titled, “Resource allocation in a breeding program for phosphorus concentration in maize grain.” The C.R. Weber Award for Excellence in Plant Science was established in 1981 to recognize outstanding academic and research accomplishments of graduate students in the Department of Agronomy. The cash award and certificate are given to all students in the Department of Agronomy with majors in plant breeding who meet academic and publication criteria. Wardyn is working on his degree with Kendall Lamkey.

GRAD STUDENTS SWEEP NC ASA POSTER AWARDS

Iowa State Agronomy graduate students won four out of six awards at the research poster competition at the North Central American Society of America meeting March 16-17 in Moline, Ill. In the soils category Natalia Rogovska, a M.S. student working with Alfred Blackmer, won first place; Jesse Grote, an M.S. student working with Mahdi Al-Kaisi, won second place; and Henry Wilson, also working on an M.S. with Al-Kaisi, won third place. Adriana Murillo-Williams, a Ph.D. student working with Palle Pedersen, won first place in the crops category.
ISU INITIATIVE TARGETS IOWA’S TOP-RANKED CORN, SOY GROWERS

The Corn and Soybean Initiative is a new effort at Iowa State University to better serve the needs of Iowa’s number-one-in-the-nation corn and soybean growers. Extension education and production research are two main emphases of the initiative. The initiative, announced in Dec., will work closely with ISU faculty and staff in Agricultural and Biosystems Engineering, Agronomy, Economics, Entomology and Plant Pathology as well as ISU Extension field crop specialists across the state. Currently, organizations that will partner with the Corn and Soybean Initiative to better serve growers include the Agribusiness Association of Iowa, Iowa Corn Growers Association and Iowa Corn Promotion Board, Iowa Soybean Association and Iowa Soybean Promotion Board, Iowa Farm Bureau Federation, Iowa Farmer Today and Wallaces Farmer and several agricultural retail businesses.

NEW PUB HELPS INCREASE SOYBEAN YIELDS

A new Iowa State University Extension publication, “Soybean Growth and Development,” is a useful tool for helping producers improve soybean yields. The 28-page book shown at left is designed to help soybean producers more fully understand how the soybean plant develops and provide common terminology when discussing soybean growth and development. The basic information explains soybean growth and development through one life cycle of a maturity group II variety. In addition, management guides identify practices that provide optimum plant growth and production at different growth stages.

IOWA STATE RESPONDS TO SOYBEAN RUST IN US

The U.S. Department of Agriculture confirmed on Nov. 10 that Asian Soybean Rust was found in Louisiana, the first known incidence of the disease in North America. Asian soybean rust is an aggressive fungal disease that can reduce soybean yield substantially. For the past two years the Iowa Soybean Rust Team has worked on how to respond to the introduction of Asian Soybean Rust into the United States. Team members represent Iowa State University, the Iowa Department of Agriculture and Land Stewardship, the Iowa Soybean Association/Iowa Soybean Promotion Board and the United States Department of Agriculture Animal and Plant Health Inspection Service. More information about the team and its action plan are available at www.soybeanrust.info. The ISU Crop Adviser Institute (CAI) has been working on educational materials for Soybean Rust for several years and cooperated with the Iowa soybean rust first detector training this past summer. The institute is offering information at StopSoybeanRust.com about rust pathogen, its distribution and movement, and products for treatment. The site is a collaborative effort of Dealer & Applicator magazine, Successful Farming magazine, and the Greenbook in cooperation with Iowa State University and the CAI.

Iowa State University has experts who can be contacted about Asian Soybean Rust:
• **Greg Tylka**, Iowa State plant pathologist, (515) 294-1741, gltylka@iastate.edu. Tylka coordinated training sessions for over 400 crop professionals during the summer.
• **Palle Pedersen**, Iowa State agronomist, (515) 290-3212, palle@iastate.edu. Pedersen is Iowa State's extension expert on soybean issues.
• **Alison Robertson**, Iowa State plant pathologist, (515) 294-1741, alisonr@iastate.edu. Robertson is an Iowa State extension plant pathologist.
• **X.B. Yang**, Iowa State plant pathologist, is one of the leading experts in the world and is a member of the USDA soybean rust detection assessment team.
INTEGRATED CROP MANAGEMENT CONFERENCE

The 16th Annual Integrated Crop Management Conference was held Dec. 1-2 at the Iowa State Center. The conference provided those involved in crop production and protection in Iowa and the surrounding states with information on Iowa’s expanding ethanol industry and the impact it will have on grain marketing and agronomics. Participants, 843 in total, could choose from 35 different workshops featuring the latest crop production information from regional experts. They also had the option to receive pesticide applicator recertification credits and earn Certified Crop Adviser (CCA) credits. Learn more about agronomic continuing education opportunities at: http://www.aep.iastate.edu/.

CONSIDER NEW CROP ROTATION THIS SEASON

An Iowa State Extension soil specialist, Mahdi Al-Kaisi, suggests farmers consider multiple crop rotations for the upcoming growing season. He said a robust, multiple-crop rotation is one management tool many farmers largely overlook in their search for a profitable and sustainable production system. “Farmers who use a multiple crop rotation can expect to improve yield and profitability over time; control weed, insect, and disease cycles; provide alternative sources of nitrogen; reduce soil erosion; increase soil organic matter; improve soil tilth, and reduce ag chemical contamination of surface water,” he said. Al-Kaisi said root systems of the plants in a rotation differ so annual crop rotations create a variety of macro pores that influence soil environment. More macropores mean improved soil infiltration, enhanced nutrient pools, and better developed soil aeration, which facilitate better environment for root growth of successive crops.
ISU RESEARCHERS INCORPORATE TOBACCO GENE FOR FROST TOLERANCE IN CORN

Iowa State University researchers have discovered a way to increase corn’s frost resistance by incorporating a tobacco gene that activates corn’s natural defense systems against cold temperatures. Kan Wang, associate professor of Agronomy and director of the Center for Plant Transformation led the research team. The tobacco gene they inserted carries protein that activates corn’s defense systems to stabilize and protect cells in times of stress from heat, cold or water loss. Their research showed an improvement of two degrees Celsius in the freezing tolerance of the transgenic corn compared to traditional corn lines. This discovery could help corn survive late-spring and early-fall frosts and allow production of the crop in areas with climates previously considered too cold. Wang says the tobacco gene appears to have no impact on corn plant growth under normal growth conditions. The tobacco gene carrying the activator protein is NPK1. It was inserted into corn through Agrobacterium-mediated transformation, which uses a soil bacterium as the vector of gene transfer. The research was published in a February edition of the journal Proceedings of the National Academy of Sciences.

GLOBAL WARMING NOT AS HIGH IN CENTRAL US

Iowa State scientists have discovered global warming might not be as severe in the central United States as in other parts of the country. Using a detailed regional climate model, they estimate summertime daily maximum temperatures will warm less in a region centered on eastern Kansas than anywhere else in the United States. The findings, published in the Geophysical Research Letters, underscore the need to consider the impact of global warming on a region-by-region basis, said Gene Takle, professor of Agronomy and Geological and Atmospheric Sciences.

Zaitao Pan, who received his doctorate at Iowa State, is the lead author on the published article. Besides Pan and Takle, other authors are Ray Arritt, Agronomy professor, Chris Anderson, doctoral student in Agronomy, Bill Gutowski, professor of geological and atmospheric sciences and Moti Segal, research scientist in Agronomy.

After discovering the ‘hole’ in climate projections for the 2040s, Pan went back to carefully examine the observed maximum daily temperatures from 1975-2000 in a region that centers in eastern Kansas and touches parts of Missouri, Oklahoma, Nebraska and Iowa. He found the hole has already started to develop. Arritt said the existence of this ‘hole’ in the warming, makes sense. “Our model tells us future climate will have more rainfall and wetter soil, so more of the sun’s energy goes into evaporating water than heating the air,” he said. Team members caution that independent evaluations are needed to confirm this finding and to determine whether the ‘hole’ might be a temporary phenomenon that will disappear as global warming becomes more severe in the latter half of the 21st century.
**Research News**

**AGRONOMY RESEARCHER CONTROLS EROSION TO SAVE THE AFRICAN SAHEL**

An Iowa State University Agronomy professor is using erosion control methods to restore the Sahel and Niger River in West Africa. Andrew Manu, associate professor of soil science, has been working with the people of Niger to restore degraded lands in the Sahel, the region of West Africa that separates the Sahara Desert from the savannah. “The Sahel degraded because large human and livestock populations and increased cultivation reduced native vegetation in the area,” Manu said. “As a result, excessive runoff increased erosion and decreased soil fertility.” Sediment carried by the runoff is deposited into the Niger River, where it creates alluvial fans. Manu and his colleagues devised a way to prevent further erosion and sediment deposits through reforestation using microcatchments. “Microcatchments are small crescent-shaped trenches that, when built on plateaus in the path of erosion, catch and hold moving water and sediment preventing it from polluting the river,” he said. Trees and vegetation are planted in the trenches using the collected water and providing extra ground cover. Manu is working with Niger’s Department of the Environment and National Agricultural Institute to promote the use of microcatchments in plateaus along the river. He presented his findings at the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America annual meetings meeting in Seattle, Wash. on Oct. 31- Nov. 5.

**RESEARCH COMPARES ORGANIC, CONVENTIONAL PRODUCTION**

ISU researchers are discovering organic production is economically comparable to conventional production in a long-term study at the ISU Neely-Kinyon Research Farm in southwest Iowa. Kathleen Delate, associate professor of Agronomy and Horticulture, and Cynthia Cambardella, USDA-ARS soil scientist, are comparing yields, pest status and soil quality of non-GMO corn and soybeans grown using conventional and organic methods. In the conventional plots, an alternating cycle of corn and soybeans is being grown. In the organic plots, oats and alfalfa are added to the corn-soybean rotation. The other organic rotation consists of soybean and winter wheat with under-seeded crop of clover. Each crop in each rotation is planted every year. “In the first three years of transition, we found that soybean yields were not statistically different between conventional and organic, and that organic yellow dent feed corn yields were equivalent in organic and conventional plots,” Delate said. “However, in the fourth year the organic corn yield and soybean yield in one treatment surpassed the conventional yield. Those yields were in fields that followed two years of alfalfa.” Pest insect populations were low in both conventional and organic systems, while grain quality was high. Cambardella, works on the soil quality aspects of the research, and said soils at the Neely-Kinyon Farm could support organic crop yields similar to conventional systems. The results of this study were published in the September-October edition of the Agronomy Journal.

**MANURE PROVEN A RELIABLE RESOURCE**

Manure applied using sound methods can successfully provide needed crop nutrients according to a four-year demonstration project conducted by ISU researchers. John Sawyer, associate professor of Agronomy, and Antonio Mallarino, Agronomy professor, found that corn responds well to liquid swine manure nitrogen and phosphorus. The goal of the project was to increase producer confidence in swine manure’s nutrient availability and consistency relative to commercial fertilizers. “Using liquid swine manure as a reliable source of nitrogen and phosphorus for crop production takes effort, but can be done,” says Sawyer. Sawyer and Mallarino led the project as part of the Integrated Farm/Livestock Management demonstration program.
Iowa State Agronomy researchers are looking for reliable ways to grow genetically modified and conventional or organic plants successfully side-by-side.

Mark Westgate, Agronomy professor and Susana Goggi, Agronomy assistant professor, are conducting a three-pronged study to learn more about corn pollen and the way it travels through surrounding fields. They are searching to find the minimum separation distances necessary to prevent outcross, which is the pollination of corn by unintended sources.

They began the study by developing a consistent method to measure pollen. Then the researchers created a model to quantify pollen production and predict movement. After creating ways to measure and predict pollen flow, they set up a number of field tests to see what impact pollen from neighboring fields has on hybrid seed corn or other specialty corn.

Westgate and Goggi are working with Ray Arritt, professor of Agronomy, who is applying his atmospheric science models to airflow in and around corn fields. Gene Takle, Agronomy professor, also works with the team providing expertise in meteorology and windbreaks to model pollen movement.

“Since pollen doesn’t just fall on plants produced within the same field, accurate information on pollen production and movement is required to ensure maximum kernel set and high levels of genetic purity,” Westgate says.

Measuring Pollen
The researchers developed methods to predict the rate of pollen production from simple measurements of tassel development. One such method relies on the fact that pollen fluoresces under certain conditions. After collecting pollen on pollen traps, the researchers illuminated the pollen to make it fluoresce, and then used a computer program to count the individual grains.

Modeling Pollen Production and Movement
The second step was to look at the pollen produced in a particular field and predict how far it will move. Topography factors such as distance, elevation, windbreaks and border rows have an impact on pollen movement, as do atmospheric conditions such as wind speed and direction, air temperature and relative humidity.

The researchers developed a statistical model that treats each pollen grain as an individual particle and tracks its movement in the atmosphere. The standard equation usually used in atmospheric modeling – the Gaussian plume equation – treats pollen as a moving cloud of particles and doesn’t take into account atmospheric and topographic conditions. The new model they created considers such conditions.
The Agronomy Department was presented with an anonymous endowment in September 1999. The endowment was not meant to replace existing funding, but to be used in innovative ways that would help the Department become the best — that is the major focus of the endowment plan, “The Path to the Future.”

The path to the Future funds innovative projects such as the corn pollen drift research featured here. The initiative areas of the plan are global agricultural science and policy, excellence in agronomic education and extension, integrated approaches to plant improvement and integrated studies of agroecosystems. In addition the endowment funds an Agronomy leadership program, which includes student scholarships, equipment purchases, faculty and staff development, infrastructure issues and communications.

“The model allows us to follow pollen movement over a wide range of fields, atmospheric conditions and through or around windbreaks. It also allows us to consider the effects of border rows,” Westgate says. “While it has its limitations, it works well for predicting pollen deposition at 200 to 600 feet from a source field.”

**Examining the Impact of Neighboring Pollen**

The third step of their project was to study the impact of pollen from neighboring fields. Pollen entering from elsewhere must ‘out-compete’ locally shed pollen to achieve an outcross. This competition is controlled both by physical factors such as local pollen density, and genetic factors such as pollen-silk compatibility.

“Our experiments estimate isolation distances by determining the risk of outcross under various field environments, rather than in seed production fields like earlier research.” Goggi says. “This project also is unique because in addition to model-forecasted pollen amounts we compare the amount of neighboring pollen that actually appeared in the field with the number of outcrosses that occurred. This allows us to calculate a frequency of success for the neighboring corn to create outcross in the field.”

Goggi and Westgate’s field studies confirm the frequency of outcross is higher when local pollen density is low (as in hybrid seed production fields), and lower when local pollen density is high (as in commercial grain fields).

“Our results indicate that, when the local pollen cloud is abundant, foreign pollen has lower chances of out-competing the local pollen. In most cases, outcross levels at the farthest points away from the source field were below 0.1 percent,” Goggi says.

“To ensure maximum kernel set our research shows a minimum density pollen shed of about 3,000 pollen grains per exposed silk is required,” Westgate says. “At lower levels of pollen shed, kernel set decreases dramatically. And the risk of outcrossing increases just as dramatically.”

Results also showed the frequency of outcross in both seed and grain fields was higher downwind. Frequency of outcross downwind is higher in the seed field (with low pollen density) than in the grain field (with high pollen density). They are using these results to predict outcrossing levels when pollen production and weather conditions are known.

*continued on page 12*
Westgate and Goggi point out yellow kernals on the ear of white corn at right. The yellow kernals illustrate the impact of neighboring yellow corn on the white corn field in the center of this trial.

**Impacting Corn Growers**

Westgate sees corn producers as the ultimate beneficiaries of the overall research effort.

“The goal is to provide growers a rational and cost-effective method for isolating fields,” he says. “Now that we have all three pieces of the puzzle together, we’re testing various management scenarios for their impact on genetic purity using models and field tests.”

Westgate says the modeling software package will provide a new management tool for producers concerned about pollen drift. It also will help growers predict the risk of outcrossing prior to harvest. The software currently in development will be available to the public.

He expects the work to result in the establishment of revised selection and isolation parameters for seed corn and other corn fields where the grower wants to maintain a certain level of purity.

In the future Westgate, Goggi and their colleagues plan to research when pollination occurs using remote sensing. Ultimately, they hope to predict pollen shed on a farm and regional scale.
Jeff Wolt joined the Iowa State University Agronomy faculty in 2004 as a biotechnology risk analyst to study risk factors surrounding deployment of genetically modified crops. He is working in research and extension for ISU’s Biosafety Institute for Genetically Modified Agricultural Products (BIGMAP). BIGMAP focuses on methods for assessing and communicating risk for the purpose of public policy decision-making. Wolt is working on a risk assessment for raising pharmaceutical corn and is collaborating with other Iowa State scientists to determine how to minimize potential risks. “Risk analysis involves integrating diverse sources of data to determine the potential harm to human health, animal health and environmental quality that may occur in realistic situations,” Wolt said. Wolt previously worked as a biotechnology risk analyst for Dow AgroSciences. He received his master’s degree in soil science and a doctorate in soil chemistry from Auburn University. He was named a fellow of the American Society of Agronomy in 2004. BIGMAP is a recently established institute at Iowa State devoted to developing tools and communicating approaches for the science-based evaluation of the risks and benefits of genetically modified agricultural products.
AGRONOMY FACULTY, STAFF HONORED BY ASA/CSSA/SSSA

The Iowa State Agronomy Department received numerous national awards at the 2004 annual meetings of the American Society of Agronomy (ASA), Crop Science Society of America (CSSA) and Soil Science Society of America (SSSA) Oct. 31 – Nov. 4 in Seattle, Wash. ISU Extension’s Soybean Growth and Development publication by Palle Pedersen, Agronomy assistant professor, received honors from ASA for excellence in educational materials in publications over 16 pages. The Crop Adviser Institute received six awards for excellence in educational materials from ASA. Agronomy faculty honored by the societies are Jeff Wolt, professor, who was named Fellow of ASA; Steve Fales, professor and chair, incoming CSSA president; and Alfred Blackmer, professor, who received the ASA Carl Sprengel Agronomic Research Award.

SALVADER LEADS IOWA STATE HONORS PROGRAM

Ricardo Salvador, associate professor of Agronomy at Iowa State University was named interim faculty director of the ISU Honors Program on July 1. The Honors Program, for students of high ability in any academic major, provides intellectual opportunities that may include an individualized program of study, access to honors seminars and graduate-level courses, and involvement in research projects.

GALLUS LAS COLLEGE MASTER TEACHER

Bill Gallus, associate professor of Geological and Atmospheric Sciences and Agronomy, was named one of the five College of Liberal Arts and Sciences Master Teachers for 2004-2005.

LAS Master Teacher Bill Gallus, associate professor of Geological and Atmospheric Sciences and Agronomy, left, uses tornado simulations in his research and teaching.
BURRAS PRESENTED WITH PIONEER PROFESSORSHIP

Lee Burras, Agronomy professor, was awarded the Pioneer Agronomy Professorship on Sept. 27. The Pioneer Agronomy Professorship is awarded to an Agronomy faculty member who displays excellence in his/her field of scholarship. Funds from the endowment may be used to support research, teaching, or extension through graduate fellowship support, professional development, seminars, course development, equipment purchases, staff support, and other programs.

In Memoriam

Wayne Hansen, died on April 28. He was an associate professor of Agronomy at Iowa State from 1978 to 1996. His work included research in small grains and alternative crops for the extension service and management of the Iowa Master Growers Soybean and Corn Contest. He was also secretary of the Iowa Crop Improvement Association.

Kiyoshi Sadanaga died Aug. 29. Sadanaga was a USDA Collaborator with ISU Agronomy for 28 years, where he taught and conducted research until his retirement in 1983.

AGRON PROFS HONORED AT AG CONVOCATION

The ISU College of Agriculture presented annual awards to faculty and staff at its spring semester convocation, including two Agronomy faculty members. Lee Burras, associate professor of Agronomy, received the Outstanding Adviser Award. For the past seven years Burras advised an average of 50 students annually. He has served as adviser for the Iowa State Soil & Water Conservation Club and the ISU Ag Student Council. He serves as co-adviser of the Agriculture Community Encourages Success (ACES) learning community. Antonio Mallarino, professor of Agronomy, received the Raymond and Mary Baker Agronomic Excellence Award for contributions in agronomy. His research focuses on cost-effective and environmentally sound management practices for phosphorus, animal manure and potassium. He also is involved in extension programs, serves as an advisory committee chair for the Iowa State Soil and Plant Analysis Laboratory and helps develop fertilizer and manure management guidelines.

Antonio Mallarino, Agronomy professor, was awarded the Baker Agronomic Excellence Award.

2004 AGRON EXCELLENCE AWARD WINNERS

Bronwyn Frame, Jim Lux, and Robbie Kerkove, received Agronomy Excellence Awards for outstanding service to the department in 2004. Frame is the Maize Transformation Team Leader in the Plant Transformation Facility. Lux coordinates the Iowa State Weed Science Demonstration Program. Kerkove is an office coordinator in the department serving crop production and plant breeding.

Agronomy Excellence Award Winners are shown above with Agronomy Department Chair Steve Fales. Right-left: Bronwyn Frame, Robbie Kerkove, Fales, and Jim Lux.
ALUMNI ASSOCIATION PRESENTS AWARD TO AGRONOMY ALUM

College of Ag alumni were recognized by the Alumni Association as part of its annual awards ceremony Oct. 8. Former dean of extension Marvin Anderson was presented the Alumni Merit Award.

The Ames resident and Agronomy alum earned all his degrees in the College of Agriculture (B.S. Agronomy ’39, M.S. Soil Management ’49 and Ph.D. Agricultural Economics and Soil Management ’55). Anderson served as dean of extension from 1966 to 1974. When president W. Robert Parks named Marvin Anderson dean of Iowa State University Extension in 1966, he was choosing a leader whose vision would continue to guide Extension 40 years later.

A soil conservation expert who had worked in the field in southern Iowa before serving as associate director of the Cooperative Extension Service, Anderson was met with the task of bringing together four of Iowa State’s top outreach programs—Cooperative Extension, University Extension, the Center for Industrial Research and Service, and the Office of Short Courses and Conferences—and, due to a federal mandate, restructuring Extension’s funding model. Anderson proved to be an innovator. The funding model developed under his leadership continues today, and his establishment of area Extension offices in Iowa catapulted ISU’s Extension program into the role of an elite, if not the nation’s premier, program.

Friends and colleagues say Anderson had a genuine passion for educating the state’s farmers and making the world a better place, which helped him achieve the highest level of success throughout his career.

After his retirement from Iowa State in 1974, Anderson served as executive director of the 1976 World Food Conference and as executive director of the Midamerica International Agricultural Consortium from 1977-1981. He also served on the board of regents—including a stint as chair—for Waldorf Junior College, from which he earned a degree in 1934.

A member of the Order of the Knoll and the Founder’s Club, a past recipient of the ISU Faculty Citation, Distinguished Achievement Citation, and Alumni Medal, Anderson is a lifetime member of the ISU Alumni Association with his wife, Julia (’41 home ec education). The Andersons are well known among Ames’ senior community for their work with Heartland Senior Services and the establishment of the popular College for Seniors continuing education program.

MARK YOUR CALENDARS FOR AGRONOMY TAILGATE: ISU VS. IOWA SEPT. 10

ISU Agronomy alumni and friends are invited to the ISU Agronomy Tailgate September 10, 2005. Join other alumni and current faculty, staff, and students for the interstate rivalry match-up - ISU vs. Iowa. The tailgate will begin two hours before kick-off at Jack Trice Stadium. Look for more details in your mailbox this summer. See cyclones.college.sports.com/tickets/fall-tickets.html for football ticket information as it becomes available. (A date change may be necessary depending on the football schedule.)
CLASS OF ’54 REUNITES AT ALUMNI DAYS

Several Agronomy alumni from the class of 1954 participated in Iowa State University Alumni Days in May. Ken Larson, agronomy emeritus professor, was a member of the Alumni Days Reunion Planning Committee as president of the ISU Class of 1954.

Other alumni involved in the committee were: Roger Mitchell (B.S. Agronomy, ’54) and Gib Stanek (B.S. Agronomy, ’54). At the College of Agriculture’s Alumni Days reception in the Agronomy Courtyard Associate Dean Eric Hoiberg welcomed about 70 alumni and spouses. Department chairs and representatives updated attendees on news from their departments; Mike Gaul, career services director, filled in alums on current graduates; and the alumni shared their recent news. For information about 2005 Alumni Days visit www.isualum.org/events/ad/2005.

NEW SCHOLARSHIP FOR AGRONOMY DISTANCE ED STUDENTS

The Virgil K. Webster Graduate Scholarship is intended for students in the M.S. in Agronomy program who personally contribute funds to pay for all or some of their educational expenses. The scholarship will be awarded yearly in $1,000 award amounts. The number of scholarships will depend on the available funds from the endowment. Six scholarships were available in 2004. More information about Webster and the scholarship are available at masters.agron.iastate.edu/students/program/scholarship.

MONSANTO ESTABLISHES GRADUATE FELLOWSHIP

A $150,000 gift from Monsanto Company established a fellowship to train graduate students in seed science at Iowa State. The Monsanto Graduate Fellowship in Global Seed Policy and Regulations will benefit graduate students conducting research on issues related to global or domestic seed policies, including protection of intellectual property rights. The gift is part of the Iowa Seed Association’s fundraising initiative to raise $1 million for Iowa State graduate students. The Monsanto gift brings the total amount raised to $780,000.

AG COLLEGE ENJOYS THIRD BEST YEAR IN ALUMNI FUNDRAISING

In 2003-04, ISU agriculture alumni designated gifts of more than $9.7 million to the College of Agriculture, the third highest total in annual private support. The number of alumni who gave outright gifts or deferred commitments was 2,284, an increase of 54 percent over the previous year. College of Agriculture alumni also gave generously to other areas of the university, including athletics, the library and general university funds.
40s
John Green, B.S. Agronomy 1941, Ph.D. Crop Breeding 1947, Leland, Mississippi. Green retired in December 2003 from Seed Source Inc. where he worked on hybrid cotton research.

50s
Ezra Gilhiam, M.S. Agronomy 1950, Salisbury, North Carolina. Gilhiam is retired from public school education and now lives on a small farm raising beef livestock and serves as a member of the local Farm Service Administration.

Russell Selvig, B.S. Horticulture/Agronomy 1950, Northwood, Iowa. He retired in 1992 after managing grain and fertilizer cooperative elevators in Iowa, Nebraska, and Kansas. Selvig also spent several years with Crites Service in their fertilizer and chemical retail business.

Lester Leininger, B.S. Agronomy 1952, M.S. 1957, Ph.D. 1959, Lincoln, Nebraska. Leininger is semi-retired. He advises high-end crop producers and continues to devise soil-moisture monitoring instruments for lawns and gardens.

J.D. Reed, B.S. 1953, Winchester, Virginia. Retired.


60s
Arden Baltensperger, Ph.D. Plant Breeding 1958, Las Cruces, New Mexico. Baltensperger made news this year for having his Bermudagrass variety Princess 77 on the field at the Superbowl in Houston, Texas.

Harold Boldt, B.S. Agronomy 1960, Chapin, Illinois. Boldt retired in 1988 then worked as a semi-truck driver for a few years before retiring back to agriculture. He now works part-time for Burrs Seed Com Co. and Sunrise Ag Service (FS) both in Arenzville, Illinois. He also does soil sampling for a large farming operation.

Jim Andersen, B.S. Agronomy 1961, Council Bluffs, Iowa. Andersen retired on July 31, 2002 after 39 years working in agribusiness in western Iowa. He spent the last 12 years working as a sales agronomist in southeast Iowa and northwest Missouri promoting white food-grade hybrids. In retirement he works as a volunteer in various community projects and programs.

Paul Hathaway, B.S. Agronomy 1967, Malvern, Iowa. He currently owns and operates his family’s century farm near Malvern.

70s
Mok Chak Kim, Ph.D. Crop Production and Physiology 1979, Jaya, Selangor, Malaysia. Kim retired as head of research and development of PT Agri Abadi (a plantation company) in Medan, Sumatra, Indonesia on August 31, 2002.

80s
Rhonda (Lamoureux) Burnside, B.S. Agronomy 1981, Storm Lake, Iowa. Burnside is currently a customer service manager with Friesen USA, Inc. in Storm Lake.

Thomas Macfie, B.S. Agronomy 1984, Crawfordville, Georgia. He is president of Soil Science Inc., of Loganville, Georgia and recently purchased a tract of tropical forest in Bolivia for conservation and soils research.

90s

Travis Sonksen, B.S. Agronomy 1996, Boone, Iowa. In 2000 he began working as an investment representative for Edward Jones in Boone, IA.

In Memoriam
Arza Adams, 8/18/04, Ph.D. 1953
Don Crumbaker, 10/19/04, M.S. 1946
Edmund Curry, 2/20/04, B.S. 1950
Earl Fife, 11/6/04, B.S. 1953
George Goethals, 10/13/04, B.S. 1943
Wayne Hansen, 4/28/04, Ph.D. 1972
Leslie Lanyon, 5/26/04 B.S. 1970
James Maguire, 8/29/04 M.S. 1951
David Mick, 11/24/04, Ph.D. 1969
Charles Murphy, 8/20/04, Ph.D. 1961
Lowell Penny, 11/2/04, Ph.D. 1955
Levi Spohnheimer, 8/15/04, B.S. 1942
John Stone, 2/14/04, Ph.D. 1957
Lincoln Taylor, 3/11/04, Ph.D. 1957
Irving Deihl (B.S. Agronomy 1949) came upon a memento of his past while packing his belongings in preparation for a move in Bella Vista, AR. The scrapbook he uncovered was filled with memories of his education at Iowa State University in the 1940s. Rather than pitch it or pack it away he sent the scrapbook off to Iowa to share with the ISU Agronomy Department.

The carefully arranged articles and photos reveal an active student life at Iowa State, including a term as Agronomy Club President in 1948. While Deihl was a student at ISU professors Harold Hughes, Robert Shaw, Charles Black, Don Kirkham, and Louis Thompson were among those behind the lecterns, and William Peirre was head of the department.

The scrapbook includes several clippings about Agronomy Banquets featuring speakers and skits. Many articles appear to have been clipped from “Agronomy at Iowa State” a quarterly newsletter for Agronomy students, faculty, and alumni that was established during Deihl’s time at ISU. He served as its business manager.

Back in those days the Agronomy Club hosted annual fall picnics and barn dances, in addition to banquets. The dances were noted for featuring both square-dancing and ballroom dancing with an “expert caller for the old-time dances.”

One photo from VEISHEA 1948 shows the Agronomy Department’s prize winning float which received first place in the agriculture division and second place among all college departments. The department won first place for their open house in the agriculture division that year as well. He also kept photos of the Agronomy float from VEISHEA 1947, photos of an intramural football squad and of Agronomy Club members from 1946.

The scrapbook includes special clippings and photos from Deihl’s involvement in the Ag Council. He included programs from two Harvest Balls and Agricultural Banquets. He also saved clippings and mementoes from his membership in Alpha Zeta, Phi Kappa Phi, Gamma Sigma Delta, and the ISU Honors Program.

The scrapbook concludes with a letter of confirmation for a job offer from “Pioneer Hi-Bred Corn Company” in 1949 where Deihl worked until retirement in 1986.

Upon its arrival the scrapbook was shared with officers in the current Agronomy Club who carefully leafed through each page reading the articles, examining the photos and chuckling over the expenses listed for club accounts. The scrapbook will be placed on display in Agronomy Hall for future generations of agronomists to enjoy for years to come.
Irving Deihl (B.S. Agronomy 1949) shared this photo of the Agronomy Department float from VEISHEA 1947. Deihl served as chairman for the float committee that year. See page 19 to read about the scrapbook he donated to the Agronomy Department and see more photos.