EXPLORE

CAREERS IN AGRICULTURAL TECHNOLOGY AND SYSTEMS MANAGEMENT
Are you a problem solver? Like working with people, money, and machines? Agricultural systems management graduates do it.

Find your place in one of our three flexible emphasis areas:

- Food and bio-processing
- Environmental and natural resources
- Machinery and bio-energy

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http://baen.tamu.edu

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Welcome to our fourth issue of Explore.

Most likely, you are entering a new chapter of your life — both exciting and, at times, overwhelming. You will soon be deciding a future path … choosing a school and a major, leaving home, and making new friends.

Careers in Agricultural Technology and Systems Management is designed to showcase and encourage the opportunities in this growing, thriving field. If you aren’t familiar with an ag systems degree, read on! We think you will be impressed with the diverse and interesting possibilities—from study abroad experiences and hands-on internships to the jobs awaiting ag systems graduates. Take your time as you peruse. You have big decisions ahead, and you may discover that you like what ag systems has to offer.

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What is an agricultural systems degree?

An agricultural systems degree combines an understanding of the agricultural, biological, and physical sciences with business, managerial, and technical skills. Graduates with this type of degree find careers in the production and processing of agricultural products into food, fiber, feed, and fuel, and the distribution of agricultural products and services. Careers in renewable energy, biofuels, and environmental quality are emerging. Students focus on the application of engineering principles, the study of technology used in agriculture, and the integration of business management concepts in the agricultural and food industries. However, the skills taught in the agricultural systems courses are applicable in many industries, and a significant number of students take employment in other industries. This degree is ideal for those interested in technical sales or technical management for an agriculture-related business involved in production, processing, or manufacturing.

Why do the university programs have so many different names?

Prior to the early 1990s, most of the programs were simply called agricultural mechanization. Careers for agricultural systems graduates have expanded far beyond mechanization. Many universities have changed the scope of their programs to focus on emerging technologies as they apply to food, energy, and environmental systems, in addition to traditional agricultural systems. These programs address society’s need to efficiently utilize natural resources and protect the environment.

The names reflect the philosophy of the school in responding to these issues. So, although they may have different names, these programs are often quite similar. Program names currently in use are:

- Agricultural and Environmental Technology
- Agricultural Engineering Technology
- Agricultural Operations Management
- Agricultural Systems Management
- Agricultural Systems Technology
- Agricultural Technology Management
- Agricultural Technology and Systems Management
- Bioresources Engineering Technology
- Engineering Technology Program
- Mechanized Systems Management
- Technical Systems Management

Consult the individual universities with questions regarding the direction and focus of their programs.

How does a degree in agricultural systems differ from one in agricultural engineering?

Today, engineers and agricultural systems graduates both work with the same types of buildings and equipment, the same crops and animals, the same sensors and computers, and the global society, yet there is a distinct difference in the work they do. The engineer is trained to analyze and design a process, system, or mechanism, while the agricultural systems graduate is able to identify system problems, formulate possible solutions, analyze the impact of alternatives (including social and economic dimensions), and then implement the best solution. Agricultural systems graduates get a broad and basic background in agriculture and the physical sciences, along with courses in business, economics, and management.

When comparing agricultural systems to engineering, you will find that agricultural systems programs are less theoretical and more practical. Emphasis is on hands-on experiences with equipment, and many courses have laboratory sections.

What do I need to know to get into the program?

An aptitude for science and math, plus an interest in solving problems, is really necessary for this field. You should also have an interest in electronics, computing, and business management. In high school, prepare well in mathematics, physical and biological sciences, English, and agriculture. Take the most advanced high school courses available to you in these areas and, if possible, take courses such as CAD and information systems. You don’t have to be a math wizard to be an agricultural systems student, but mathematics is used a great deal.

Do I need a background in agriculture for this major?

No. This major has the flexibility to allow students from rural, suburban, and urban backgrounds to develop a program to meet their personal career objectives.

Is this a good option for women and minorities?

This field is a great option for women and minorities. The number of women and minorities entering the field continues to rise.
Are internships available?
Yes. Ag systems programs offer many opportunities for internship work experiences in a variety of companies and organizations. Many experiences are paid internships. For some programs, internships are required for graduation.

How can I find out what schools offer programs in agricultural systems?
The schools currently offering agricultural systems programs are listed on page 27. Be sure to check with the schools in which you are interested regarding particular programs. Begin your search in the departments where these programs are typically administered.

How do I select the school that is a good fit for me?
The Internet is a great place to begin your search. Many of the colleges and universities provide detailed information about their programs — including course requirements — on their Web sites (see page 27). When you have narrowed your choices, visit the top schools on your list if you can. Faculty and students will meet with you and show you their facilities. By visiting, you will get a sense of whether a program and setting is right for you.

What are the course requirements like in these programs?
There is no common set of course requirements for ag systems. In fact, they can vary widely. These programs integrate a broad education with expertise in the agricultural sciences, applied technology, and business management. Courses are relevant to all phases of the food, agricultural, natural resources, and environmental industries.

Graduates will be able to integrate and apply advanced agricultural technologies and equipment through student experiences in machine and power systems, computer applications, materials handling, food and materials processing, environmental resources management, electrical/electronic systems, and information/decision support technology. Required coursework balances hands-on knowledge of technology with instruction in agricultural and environmental sciences and agribusiness principles.

Supporting courses provide a foundation of mathematical, chemistry, computer, economic, and communication skills. Computers are used to collect and analyze data and then act on that information to control machines and processes. Other computer uses involve planning layouts of equipment and buildings, generating reports, monitoring product systems, etc.

Will I have time for extracurricular activities? How many hours a day will I need to study?
Let’s look at the second question first. How much time you devote to your studies depends upon you and your expectations. Many colleges say that for every hour you spend in class (often 15 hours/week) you should spend approximately two to three hours studying outside of class. Tougher courses may require more time, easier courses less. Much depends on an individual’s ability, attitude, and motivation. That said, students shouldn’t be expected to study at the expense of all outside activities. Employers are looking for well-rounded new hires, who can balance study with involvement in student activities. You will be able to build your leadership, communication, and organizational skills by being involved in clubs or sports. Most schools have an agricultural systems club. Be sure to check out the ASABE student branch on campus. (See page 30 for more information about ASABE.)

What is the career outlook? What types of companies will I work for?
Agricultural systems graduates are in great demand. Many agricultural systems schools have a placement rate approaching 100%. The starting salaries are highly competitive and are among the highest for college of agriculture majors. Employers and career opportunities are vast and varied. You could be working for major equipment manufacturers such as Caterpillar or AGCO; seed and grain companies like Monsanto or ADM; government agencies such as the Natural Resource Conservation Service, the Environmental Protection Agency, or the Peace Corps; companies like Frito-Lay, Toro, ConAgra; or emerging companies in the biofuels industry. Agricultural systems students are also hired by smaller businesses such as cooperatives, cotton gins, regional manufacturers, construction companies, etc. Or you could start your own business! The opportunities are endless!

Research and editorial assistance provided by Associate Professor Thomas Brumm, Iowa State University, Ames; Professor Joe Harper, University of Illinois, Urbana; and Professor and Associate Head Stephen W. Searcy, Texas A&M University, College Station.
Why Choose the Degree?
A tailor-made program with great jobs on the graduation horizon

**Nick Hudek**

**HOME:** Adkins, Texas  
**SCHOOL:** Texas A&M, AGSM senior  
**PRESIDENT:** Ag Systems Management Club  
**INTERNSHIP:** H-E-B’s meatplant, San Antonio, Texas  
**SIBLINGS:** Two younger brothers, both interested in attending Texas A&M  
**INTERESTS:** Raising show steers for local and state livestock shows

**FEW DEGREE** programs allow students to mold programs to fit their course of study. For Texas A&M University senior Nick Hudek, agricultural systems management (AGSM) does just that with an array of training and career opportunities. “AGSM is a degree that combines the basics of agricultural engineering with developed business/management principles to sculpt graduates into managers of agriculture-related industries,” Hudek says. “I chose AGSM as a major because of the wide variety of career opportunities available to the graduates of the department and because of the wide array of classes within the curriculum.”

The agricultural systems management program, administered by the Department of Biological and Agricultural Engineering in the College of Agriculture and Life Sciences at Texas A&M, combines technical, business, management, and systems science techniques and courses. The program features hands-on learning and experiences, with a senior-level

“STUDENTS INTERESTED IN THE FIELD SHOULD CONSIDER THIS MAJOR FOR THE SAME REASON THAT I DID: THE DIVERSE CURRICULUM, WHICH GUARANTEES YOU NUMEROUS OPPORTUNITIES FOR CAREER PLACEMENT.”
capstone management course that provides the practical experience graduates need to deal with real-world management problems.

Students can tailor the curriculum to include key courses: food plant engineering, systems analysis, agricultural machinery management, processing and storage of agricultural products, instrumentation and electronics, water and soil management, technology for environmental and natural resources, professional leadership development, agricultural law, economics of agribusiness, and managing people and projects in a technological society.

Hudek commented that several of his classes — food and agriculture sales, ag machinery management, occupational safety and home and farm electricity — taught him new skills.

“Food and ag sales taught me many sales techniques and gave me hands-on experience with selling. Ag machinery management taught me numerous tips for managing machinery by scheduling preventative maintenance and much more.”

Hudek adds that experiences outside of the classroom also shape the learning environment. “This major has a close relationship with the agricultural engineering department. Also, the Agricultural Systems Management Club (ASMC) and the student ASABE organization work hand-in-hand to learn from each other and work as a team,” adds Hudek.

The ASMC, of which Hudek is president, is an additional resource for students, offering monthly meetings that feature talks with industry professionals, industry tours and shadowing opportunities, and fellowship with members through participating in university-sponsored programs.

From skills gained through courses, industry shadowing opportunities, and professional memberships, Hudek has already applied his agricultural systems management knowledge while completing an internship with H-E-B, one of the largest, independently owned food retailers in the nation, with hundreds of stores throughout Texas and Mexico and more than 68,000 employees. H-E-B operates four store formats to best serve customers — H-E-B, H-E-B plus!™, Central Market, and Mi Tienda—but the motto is the same at each one: “Here everything’s better!”

“I used many of the skills that I learned while completing two summer internships at H-E-B’s meat plant in San Antonio, Texas,” relates Hudek. “Occupational safety, machinery maintenance, computer skills, speaking/presentation, process improvement, and many other business-related skills.”

He hopes to continue applying those skills after graduating: “I plan to either work for the H-E-B meat processing plant, where I would be involved in leadership and management of the employees as well as the facility, or I will work in sales/marketing for an agriculture equipment company like John Deere, Kubota, or Vermeer,” he speculates. “I will use many of the skills that I developed in AGSM through making business decisions, determining process improvement areas, as well as leading and managing people and engineers.”

To potential undergraduates interested in pursuing a degree in agricultural systems management, Hudek offers some advice. “Students interested in the field should consider this major for the same reason that I did: the diverse curriculum, which guarantees you numerous opportunities for career placement.”

LAUREN ROUSE, this feature’s student author, is a Texas A&M University graduate assistant, Agricultural Communications and Journalism, Department of Agricultural Leadership, Education, and Communication. Her field of study is in agricultural communications and journalism, with an emphasis in international ag development. Her interests include photography and experimenting with graphic design programs.

Rouse has a passion for travel, was an international studies and French undergraduate major, and lived in Paris for three months completing a study-abroad program. She aspires to a job that would allow her to explore new places, and her dream is to work at a vineyard or winery in France “doing communications.” A suitcase-toting enthusiast, she would like to introduce ag communications and ag-related-program students to the benefits of studying abroad or being part of a cultural exchange. “If I could coordinate travel opportunities for students and open doors to new experiences, I would love it,” says Rouse.
Michael Vos

HOME: Altoona, Iowa

JOB: Software Sales Manager, Ag Leader Technology

INTERESTS: Very active in his local church, Michael serves as chairman for a congregation of 750 families. He also enjoys camping with his two sons, teaching them to enjoy the outdoors.

ALMA MATER: Iowa State University, ATM

MICHAEL VOS has used his ATM degree by signing on with a company that is at the forefront of agricultural technology. As the name implies, Ag Leader is looking to the future by providing real-time applications in the field for precision farming and increased profitability. Since 2000, Vos's ATM degree has enabled him to combine his business knowledge as software sales manager with the technical expertise required in a demanding and ever-changing field.

Vos knew he wanted to attend Iowa State University (ISU) because the school is known for its College of Agriculture and Life Sciences. But with so many choices available as a major, he settled in for a semester before deciding on ag systems technology (AST). The curriculum provided a varied course of study supplemented with mandatory internships or co-ops.

Vos relates that “college is a good time to expand your horizons by using internships and travel. No matter the job you receive, you will need to have good relationships with other people, so I wanted to begin to work on those skills early.”

A favorite course of study was a one-month trip through Europe visiting small-scale farms. At the end of the course, students submitted a research paper describing some of the adaptations agricultural enterprises must make, whether they are market-based approaches or changes in production management.

Vos’s overseas experience currently helps him in the extensive travel he does with Ag Leader Technology. “I travel through Europe, South Africa, and South America describing our technology. Technology helps increase profits while minimizing costs; thus, the use of technology is on the increase,” Vos explains.

One of the developments coming from Ag Leader Technology is the proprietary SMS software available for precision farming. SMS Mobile ™ is just one example. It is a ruggedized handheld GPS/PC device that provides real-time data for field applications such as soil sampling and overlay mapping.

“Everything from satellite images to soil samples and combine maps can be loaded onto this handheld,” Vos says. Ease of use and durability are also emphasized by Vos, who demonstrates the point-and-click interface during an online video interview.

Vos credits the diverse nature of his ATM degree, along with signing on to a rapidly expanding company, for his current success. “Agricultural profits are booming, and input prices are on the increase.” And with large investments continuing to take place in this sector, educated applicants will be in high demand.
Agricultural Systems Management develops skills necessary to manage machines, money and people in a business environment.

Career areas include crop and food processing, power and machine business, environmental management and farming enterprises.

Students combine campus experiences with professional job experiences through internships with equipment dealers, other ag-related business and government agencies.

For more information contact Agricultural Systems Management, http://ASM.missouri.edu/ or 1.800.995.8503, Leon Schumacher - schumacherl@missouri.edu
HELP WANTED:

Curious Minds and Problem Solvers
Apply Within

Lucas Haag

HOME: Tribune, Kan.

CURRENT POSITION: Assistant Scientist, Kansas State University (KSU) Southwest Research & Extension Center

DEGREES: KSU, ATM, 2005; KSU, M.S., Agronomy (Crop Production/Ecophysiology), 2008

Q When did you decide to obtain your undergraduate agricultural technology management (ATM) degree?
A I made the decision to get my ATM degree prior to my sophomore year in college. I started my studies in electrical engineering (EE) with the goal of developing precision agriculture technologies. Though I enjoyed my time in EE, I found that my strengths were better suited to the evaluation and use of technologies, rather than on the development side. Pursuing a degree in ATM allowed me to develop the skills in engineering, agronomy, and agricultural economics necessary to pursue my goal.

Q Did anyone influence your decision?
A Faculty and staff members helped me see how ATM was an excellent fit for my abilities and helped me find the opportunities to make it a full experience.

Q What made you decide to attend Kansas State University (KSU)?
A The reputations of the Colleges of Engineering and Agriculture were what drew me to KSU. Once I toured the colleges, I was hooked. After being at KSU for several years, it really became apparent to me that one of its biggest strengths is the integration of research, extension, and teaching.

Q Once you decided to pursue an undergraduate ATM degree, was there a defining moment that convinced you that you'd made the right decision?
A This moment occurred several times in my machinery systems, precision agriculture, and problems courses. The opportunity to define a problem and develop my own solution was so valuable. It was during these activities that I realized the value of the experiences present in the ATM curriculum.

Q Did your undergraduate coursework prepare you for graduate school?
A Considering that graduate school was really one big critical thinking activity, I was much better prepared for analytical tasks and problem solving than many of my peers coming from other undergraduate programs. I attribute this to the types of coursework and teaching methods found in the ATM program.

Q After you obtained your graduate degree, did you feel you had ample job opportunities available to you?
A One of the toughest things about completing my degree was choosing a job. The opportunities available in agriculture right now are astounding. An ATM degree prepares you for almost any type of position and makes you especially attractive for positions that have any form of technical component.

Q What sort of projects are you currently involved with in your position?
A Efforts at the station are focused on improving dry-land and limited-irrigation cropping systems. We are in a semi-arid environment (16.9 inches of rain per year) that also is prone to wind erosion, so almost all of our projects have a water-use component, as well as managing crop residue to suppress evaporation losses and control wind erosion. I am currently working on evaluation of different planting geometries to help stabilize dry-land corn and grain sorghum production. The machinery background gained through my ATM degree has led me to being involved in the fabrication or modification of research equipment.

A My other projects this past year have involved installing a fully automated weather station at one of our research fields for calculating evapotranspiration. I also oversaw a major equipment rebuild of the well for our irrigation system after a casing collapse.

Q Can you describe a typical day at work?
A The best part about my job is that there is no typical day. Some days, I spend a majority of my time performing statistical analysis and writing up data for publication. Other days, I build or modify a piece of plot equipment. Regular activities include installing and maintaining data acquisition equipment such as automated weather stations and soil moisture sensors. There also is time spent in the field applying treatments, taking measurements, and planting and harvesting plots.

Q What satisfies you most about your current position?
A What I find most satisfying is the potential I have to make a difference. I grew up on a high-plains, dry-land farming operation, and our entire region is or will be facing the realities of limited-irrigation. Relatively few people are focusing on solutions to improve agricultural production in this environment, and it’s very rewarding to me that I can be involved in improving productivity for an industry and a region that are very personal to me.

Q What frustrates you most about your job?
A When I first became involved in research, I became frustrated with the slow pace of progress. It took me awhile to realize why the process takes years to complete. The flip side of this frustration can be good, however, as it encourages me to find ways to innovate and...
shorten the time required for an idea to be researched, proven, and, if viable, put into practice.

Q: What does your family think about the work you do?
A: My family, being in production agriculture, has a particular appreciation for my work. They farm in the region, and advancements made at work have the potential to benefit our farming operation.

Q: Why should someone consider this profession?
A: If you have a natural curiosity, you would be a good fit for the research profession, as it requires an inquisitive mind and someone who is observant and can then think about these observations. This profession is exciting. There is always something new to investigate.

Q: What advice would you give a high school student or college freshman who is leaning towards pursuing an ATM/ASM degree?
A: I honestly don’t think you can go wrong with pursuing an ATM degree. The ATM degree will prepare you for almost any area of employment you can imagine. I would strongly recommend getting involved with something that sparks your interest, whether it’s involvement with a student design competition, assisting with a professor’s research project, or working as a fabricator in the department machine shop.

Q: How many years have you been an ASABE member? Why did you join, and how have you benefited from membership?
A: I’ve been a member since 2002. I joined because I was involved with activities at the KSU Student Mechanization Branch. I also think it’s prestigious to have the ASABE affiliation on my résumé. Over the years, I have grown as a member professionally, attended annual international meetings, and really benefited from using the ASABE Online Technical Library, which I use on a weekly basis, at least. Another value of membership is the networking opportunities. I have found that meeting and talking with others who share my technical interests is extremely valuable.

Q: Any last comments you’d like to add?
A: At KSU, and I imagine at other schools as well, the camaraderie found among ATM students is second to no other major. I continue to keep in contact on a regular basis with many of my classmates. People with ATM degrees stand out in their field!
ASM:
Music to My Ears

On Key with Agronomy

Sarah E. H. Lovas

CURRENT POSITION: Monsanto Local Field Adviser
HOME: Raised in Hoople, N.D., now from Hillsboro, N.D.
HOBBIES/INTERESTS: Music, antiques
ALMA MATER: North Dakota State University, ASM

I initially chose North Dakota State University (NDSU) because it has an exceptional music program. I also wanted to take a few ag classes on the side. The farm girl in me, I guess. I started my undergraduate degree pursuing music education, but I spent a lot of time going home every summer, working on the family farm and loving every minute of it. In my heart, I wanted to farm the land where I grew up. So eventually I decided that I’d better find something in agriculture, and use music as a serious hobby instead of a career!

One of the ASM professors, Les Backer, who is now the department chair, talked to me about the incredible NDSU program. He showed me all of the different options that were available with a degree in ASM, as well as all the different minors that I could earn.

When I changed majors, I wasn’t sure what area of agriculture to pursue. Dr. Backer showed me the vast flexibility that ASM provides. I was very interested in the machinery classes, and the fact that I needed to pursue a minor provided a way for me to learn about another area of agriculture. So I went for it!

While in ASM, I met an interesting classmate — Jason, a farmer from Hillsboro, N.D. — who also was on the way to getting a college education. He was on the NDSU Bison Pullers quarter-scale tractor team. Jason asked me to be on the team. He was a couple of semesters ahead of me in the ASM program, so I often asked him for advice. Eventually, we ended up going on a couple of dates, and after awhile, he proposed. I realized that I would not be going home to the family farm. I also knew that I would need to pursue a career within agriculture that would let me work from Hillsboro!

I ended up getting an agronomy internship for a summer, and I was hooked. I loved the work! I still love music, but an agronomy minor with my ASM major was more in tune with my goals.

After I graduated from college, I worked in agronomy retail, crop consulting, and selling chemicals, fertilizer, and seed. As my career progressed, I learned about a new direction that Monsanto was undertaking, and I wanted to be a part of it. Monsanto applies innovation and technology to help farmers produce more while conserving more. The company helps farms grow sustainably, so they can be successful and produce healthier foods, better animal feeds, and more fiber, while reducing agriculture’s impact on our environment. So with Monsanto hiring for the North Dakota area, I pursued a position.

Today, I work as a local field advisor for Monsanto and call on farmers, help solve agronomic issues, and educate others about new technologies coming on the market. It’s great!
In the spring, I help with planting plots and troubleshooting agronomic issues. Throughout the growing season, I watch our plots to see how different products react in different geographical areas, help customers troubleshoot agronomic issues, and answer questions about how to use Monsanto products to their maximum potential. During the later growing season, I take customers through our plots so they can see the new technologies coming on the market. During the harvest, I actually help harvest plots, and then look at harvest data. This helps me to further understand our company’s product lineup so that placement and use of each variety and hybrid can be maximized. During the winter months, I attend trade shows and meetings and do farm calls to answer questions about agronomy and products.

The major source of satisfaction in the work I do comes from helping farmers solve problems, which in turn helps them boost their production. After all, this is my dream job! Science, helping farmers, great technologies and germplasm — what else is there?

Advice Column

Ask Sarah

Dear Sarah,

Can you give me some good advice if I decide to pursue an ASM degree?

Signed,
Looking for Direction

Dear Looking,

First, do internships! The more you try out a job, the more you learn whether it is right for you. Employers want you to have as much experience as possible. I had only one — an agronomy internship — at a local elevator. (I wish I had had more; I think I would be a better employee if I had more experiences.)

Second, get involved! Student organizations bring you opportunities to show off leadership and teamworking skills. Your participation also shows that you can go over and above the daily work standard. (It’s also a great way to meet people. I met my future husband in the ASM Club!)

Third, develop relationships! Agriculture is an industry based on relationships, and you can’t start developing these relationships too soon!

Finally, get farm experience! Employment opportunities in agriculture are endless, but the farm is where the rubber hits the road. It’s amazing what you learn when you work on a farm! It can help you understand how decisions are made or how to improve on the current technologies. I have met some great people in this industry who grew up in cities and had no early farm experience, yet they are doing a great job. They learned about how things work on the farm, which is experience they lean on now.

The opportunities in agriculture are endless. We need more people working in agriculture today than ever before. We have more mouths to feed and there are energy issues to solve. Agriculture will be part of the solutions to solve these problems. Whether it’s through biotechnology in our seeds or computer technology in our tractors, there is a place to get involved!

Combine your interests into a single major.

Agricultural Systems Management combines technology, business, and science for great career options.

Careers of recent ASM grads:

- Applications Specialist
- Instructor
- Production Supervisor
- Technical Specialist
- Construction Supervisor
- Marketing Director
- Sales Manager
- Testing Analyst
- Consultant
- Product Manager
- Technical Sales
- Training Coordinator

Visit us online at

www.abe.psu.edu/asm
EXPLORE PROFILES

Florida Flora

Raquel Langford

HOME: Mount Dora, Fla.
EMPLOYER: Liner Source, Inc. (LSI)
ALMA MATER: University of Florida
MAJOR: Agricultural Operations Management

Pursuing a degree in ag operations management (AOM) is a great experience because the program combines business management and agricultural science. Most majors emphasize one or the other, but this major incorporates them both — growing the business and growing the plants! Within this major, I specialized in production systems management, which focuses on the management of a production operation. It’s what I’ve always wanted to do.

I chose to attend the University of Florida (UF) because it is a well-rounded school with one of the best ag departments in the world — and I’m a third-generation Gator! My dad, mom, and grandfather all attended UF, which makes my UF degree even more special for me. Another factor that influenced my choice is that I wanted to work in the family business, and my sister was already attending UF and majoring in ag operations management. Overall, it was the right step in my career path.

I really love it!

During my years at UF, many factors helped to reassure me that I was making the right career choice. I instantly related to all my teachers in the ag department, and they were all willing to help any time with any questions I had. The more classes I took, the more people I met, and this allowed me to talk with students who had different backgrounds and interests.

A little background — my parents, Joan and Marty Langford, own Liner Source, Inc. (LSI), a wholesale plant nursery in Eustis, Fla. (www.linersource.com). We supply plant liners and other container-grown plants to customers all over the country. In our industry, a “liner” is a starter plant that’s grown either from a seed or from a cutting from another plant. A liner can be any type of plant, but we specialize in woody ornamentals. In fact, we’re one of the nation’s largest suppliers of junipers, with more than 50 varieties.

Since I grew up in the family business, I already had some experience in this field. Ever since I was 16, I worked for my parents in an after-school job and during the summers. This past summer, I worked in the advertising department. Advertising involves a lot of different projects, and it demands computer skills. I’ve done mailouts, Web site design, ad design for magazines and newspapers, postcards, and e-mail broadcasts. Designing all of these materials takes time, and a typical day includes writing and editing, taking pictures, and working on layouts — everything that an ad agency or graphic design firm does. Another important aspect of this job is maintaining the customer database — that is, the people to whom we send the advertisements. They’re our business!

With my degree in hand, I have been trying wholeheartedly to learn every inch of LSI, and so far I’ve learned more about the business than I ever knew before. In fact, my biggest source of satisfaction is the feeling I get when I’ve mastered something new, from caring for the plants to running the office. I am not an expert in all aspects, but someday I will be. This is my goal, and this is my dream job.

If you’re just starting out in AOM, or if you’re considering it as a major, be sure to take every opportunity that comes your way. For starters, make sure you attend the career fairs to find out about job opportunities and internships that are available. Work experience is totally different from the classroom, and real experience is essential for this field. I was fortunate to have an internship in my family’s business, and our company has internships available. In fact, one of my tasks in the coming years will be visiting universities to promote our internship program. Look for me at the career fair!
Nick Silva

HOME: Pembroke Pines, Fla.
EMPLOYER: Liner Source, Inc. (LSI)
ALMA MATER: University of Florida
MAJOR: Agricultural Operations Management

Hi, I’m Nick, and AOM appealed to me because, while I like agriculture, I didn’t want to pursue a degree in botany or horticulture. I especially liked the specialization of production systems management because, to me, the business aspect of agriculture is just as important as the science side. This specialization allowed me to concentrate on both the business and the “growing” aspect of the business.

However, my path to the University of Florida’s AOM program was not as direct as the route that Raquel and Karen took. I originally chose a university in New York state. After a year and a half, though, I decided that I needed to change schools to pursue my dreams. I had a sister attending UF at the time, and she helped me to see that UF was the best place for me.

I discovered my career through internships. Most of my previous experience was in construction, and I had internships every year in college. But after I spent a little under an hour at LSI, I knew I wanted to pursue agriculture management. It happened just that fast! This is what I want to do for the rest of my life.

Right now, I’m working as an LSI sales representative to the Home Depot stores in my area. I maintain LSI products and assist the stores with their ordering. The job involves a lot of person-to-person contact, and seeing customers happy with our products brings me the greatest satisfaction. My biggest frustration is the weather — it’s one thing we can’t control. No one likes to do landscaping in bad weather!

There are great job opportunities in agricultural management. However, if you’re considering majoring in AOM, don’t let money be the deciding factor in your college or career choice. Follow your dreams, not your wallet. As Karen will often say, “Love what you do.” And I love what I’m doing!

Karen Langford

HOME: Mount Dora, Fla.
EMPLOYER: Liner Source, Inc. (LSI)
ALMA MATER: University of Florida
MAJOR: Agricultural Operations Management

Hi! I’m Karen, Raquel’s sister, and as you can tell, we both work for LSI, our family-owned nursery business. Choosing a college was easy — like Raquel, I practically grew up wearing Gator dresses! My family members love the University of Florida, and it rubbed off on me, too. I knew that I wanted to major in AOM at the start of my freshman year, and I chose production systems management because it offers a business track within the agriculture field. I also liked that the program includes classes on human resource management, economics, and financial planning. The more classes I took, the more I liked my choice.

I also had an internship with LSI, and this helped confirm my career path. My parents showed me what running a business is really like, and how rewarding it can be. The skills and relationships you develop in a business can make your life meaningful. The phrase “Love what you do!” is something I learned from watching my parents. In particular, I love interacting with customers and employees. In the future, I plan to work in the human resources department.

Here’s some advice to keep in mind as you pursue your college career: some of your classes may seem like they don’t fit with the program or with your own plans, but be patient. Down the road, these classes will come in handy. I found this out when I had an internship with LSI. I worked all over the office — in the advertising, bookkeeping, and secretarial departments. These jobs all involved different tasks and skills, and it was then that my various business courses really came in handy.
I chose to attend Michigan State University (MSU) because I grew up near the campus. In addition, my father graduated from MSU with a degree in agricultural engineering, and my grandfather worked as the manager for the MSU horticulture farm, so there’s a family tradition. I remember going to football games in the fall with my parents. The spectacular marching band is one of the things I remember most, and I wanted to be a part of this group. Given all this, the decision to be a Spartan was easy.

I began my freshman year thinking that I might pursue mechanical engineering or something that dealt with science — maybe biology. I gave biosystems and agricultural engineering a shot, and I was happy there for a while. What changed my direction was the math. I don’t mind math, but I couldn’t see myself sitting behind a desk crunching numbers. After talking to students and professors in biological and agricultural engineering (BAE) and technology systems management (TSM), I decided that going for a more hands-on degree was what I really wanted. What I most like doing — working with my hands — was what I could get in TSM. I discussed this change of major with MSU professor Luke Reese and my parents and finalized the decision.

Through TSM, I discovered my place, and I had the chance to participate in a Sustainable Food, Environment, and Social Systems study abroad experience in Australia. The trip spanned 28 days, with a jump across the International Date Line. Studying sustainability was the point of the journey.

To be sustainable, there has to be a balance of three topics — environment, economy, and social issues. You might ask, “What is this balance?” The answer I like is this: “It’s different for every person on the planet, depending on what he or she deems important.” However, when you balance any two of the three topics, the remaining third topic is always negatively impacted.

For me, the best part of the Australia trip happened on the last day before we flew back to the States. We had a free day, and a fellow student and I rented mountain bikes. We rode the Bump Trail. Before the coast road was built to Port Douglas, Queensland, there was a supply road called the Bump Trail that went over the mountain. It’s just like one of the old supply trails that were used in the United States to bring things to mining camps and other remote locations. The men who worked the Bump Trail long ago took pride in not turning anything away. Today, hikers, mountain bikers, and horseback riders enjoy the trail. It is so steep that you must walk your bike up. It took about two hours to travel the two kilometers up the trail and about 30 minutes to come back down! But the scenery along the way was worth it.

Upon returning stateside, I had another opportunity — a summer internship with a new storage and processing facility for potatoes in south central Michigan. Potatoes harvested from the field are stored in a “dirty” state and then washed later. Small quantities are cleaned, bagged, and shipped to grocery stores, restaurants, and for further processing.

My typical on-the-job day varied as much as the weather in Michigan. Some days, I answered questions that the steel crews had about machinery installation. On other days, I helped the plant engineer. I normally worked 9- to 10-hour days, about 45 to 50 total hours each week. I received three college credits that count toward graduation, and I got paid!

My advice to future TSM students is to get a job in the department so you will have a chance to interact with the professors. For example, Luke Reese, MSU’s TSM internship adviser (see page 18), really gets to know each of the TSM students and passes along any internship possibilities that he learns about. And when you begin a new class with a professor who already knows you, you’re a step ahead. Professors who know you tend to be more willing to help if you don’t understand something. When I settled on TSM, I found work within my major’s department. Over the course of my college years, the research project I worked on was a great source of satisfaction. We worked for more than a year planning and building a furnace that burns different fuels, and it proved successful. Everything worked!

Another major source of satisfaction was making the Spartan Marching Band and going on to become section leader. Autumn, football, and marching bands just go together at MSU.
Top right: Eric Richey on the pristine riverbank along the Bump Trail on the North Easter Coast in Australia’s rain forest area. “The water lured us — unbelievably crystal clear. It was about 90 degrees Fahrenheit, hence no shirt!”

MSU’s travel crew found another aqueous interest on an equally hot afternoon — scuba diving. Their snorkeling adventures give new meaning to “Down Under,” and they all returned stateside with tales of fish that they had caught on underwater cameras. After the Outback, a diving trip to the Great Barrier Reef offered a stark contrast of the various ecosystems found in Australia. “The beauty and magnitude of the Great Barrier Reef can’t be described in pictures or words — you have to see it for yourself,” said Richey’s professor and travel coordinator, Luke Reese. “Academically, the Great Barrier Reef is a live classroom in which to study sustainability in a global context. Human activities that cause global warming can be tied to potential catastrophic environmental issues on the Reef.”
G’Day, Mate!

Luke Reese

**HOME:** Lansing, Mich.

**CURRENT POSITION:** Associate Professor, Biosystems and Ag Engineering, Michigan State University Extension

**DEGREES:** North Carolina State University, B.S.; Clemson, M.Ag; MSU, Ph.D.

LUKE REESE grew up as one of three brothers on a dairy farm in Taylorsville, close to Hickory, N.C. All things agricultural were of interest to the close-knit siblings.

Reese, the first in his family to attend an institution of higher education, began his college career as a math major at North Carolina State University, but a dorm mate who was interested in technological biological engineering influenced his decision to switch to the tech-bio field.

With his undergraduate degree in hand, Reese proceeded to a master’s ag program at Clemson University. This next career step was based on friendly information he received at a summer ASABE meeting in Raleigh — graduate assistantships were available at Clemson!

While a graduate student, Reese attended a winter ASABE meeting in Chicago and connected with a Michigan State University (MSU) professor. They remained in touch while Reese sold farm equipment and worked in his brother’s sawmill for about a year after receiving his master’s degree. Feeling the need to further his education, he applied to MSU and received a fellowship and assistantship for Ph.D. work.

“It was easy to go back to school,” said Reese. “After a year of hard work, I was ready, and I’m thankful for the life experiences I gained.”

Upon completion of his doctoral work, Reese was hired at MSU and took command of the College of Agriculture and Natural Resources’ computer services, taught graduate courses in communication strategies, and in 2000 began undergraduate teaching in computer information technology, specializing in integrating software solutions. Web pages, digital portfolios, and spreadsheets are his world.

Reese’s trekking adventures across Australia began when his only daughter was in third grade. An MSU professor and organizer of a Down Under study abroad program gave a presentation on Australia at his daughter’s school. When the professor was unable to lead the excursion, Reese went in his place. He has since led ten students regardless of major.

“For a month, students are deeply immersed in a culture unlike their home communities in the United States,” Reese said. “They learn that all money isn’t green. They hear a different English from what we speak. They adjust to driving on the left. And since the program runs from the first part of May until the first part of June, there is enough time left in the summer so that employment is still a possibility.”

The travel routes vary from year to year. Itineraries have included stops in Auckland, Wellington, and Queenstown in New Zealand, while Australian stops have included Sydney, Brisbane (the Gold Coast), Canberra (the national capital), Cairns (the Great Barrier Reef), Uluru (Ayres Rock), and Tasmania.

Topics of study vary as well but are apt to include discussions on sugar cane, the rain forest, agri-tourism, tourism development, climate change, and indigenous cultures. Faculty leaders and students have toured processing plants, kiwi fruit packing and storage facilities, agri-tourist agencies, and, of course, the Outback. With an emphasis on all things sustainable, including solar energy, this year’s group toured a solar city with green buildings, rode a solar bus, discovered the aesthetics of solar trees, and discussed the social aspects of sustainability. Natural light, heat, and cooling were key topics, and students learned about half-flush toilets as well.

“The overriding benefit of a study abroad experience,” says Reese, “is the relationships that are built through traveling. Year after year, I watch students connect with others in their field as part of the learning process.

“TSM has more emphasis than ever on electronics and operations, and it’s a degree in its own right — not one that competes with engineers, as once thought. Typically, TSM students are problem solvers, tinkerers, and builders-and-fixers — not mechanics but managers. I’ve invested classroom time and travel time in preparing students for employment in food processing, equipment dealerships, GPS operations, harvesting/planting precision agriculture, and other areas. MSU’s TSM graduates have a diversity of employment options. Last year’s graduates work in everything from fire protection to environmental efforts.

“The study abroad experience is an adventure in critical thinking. It’s not just a field trip, but an academic experience. Though it’s a lot of work to pull it off year after year, it’s worth the effort. Experiences abroad are typically seen as a highlight of an academic career. And, best of all, friendships are made that will last a lifetime.”
1. When an Aussie tells you, “It’s not far,” he probably means, “It is only a daylong trip.” Eric Richey and traveling companion, Brad Smith, look down the road between Adelaide and Alice Springs for the next roadhouse stop. “Are we there yet?”

2. Students saw Barron Falls near Kuranda, Queensland. Australia, the driest and most weathered continent, offers an extreme range of ecosystems, from desert to rainforest to reef. Students exposed to these extremes can better understand how human activities impact the sustainability of our environment.

3. The “true” Australian Outback is serious business. Between Adelaide, South Australia, and Alice Springs, Northern Territory, overland travelers must be prepared, as indicated by this motorist sign. Did you pack extra gasoline and two jacks?

4. “It’s a ‘roo! It’s a ‘roo!”

5. Tindo, the Aboriginal name for sun, is the first electric bus in the world that is recharged using 100 percent solar energy and is thus carbon-neutral. Tindo offers free rides in Adelaide, South Australia.

6. A prime example of human adaptation and water conservation is the Coober Pedy Golf Club. The course is grassless, thus requiring no water or fertilizer, and the “greens” are oiled to stop the sand from blowing away. Golfers mostly play at night with glowing balls to avoid daytime temperatures and must carry a small piece of artificial turf for tee off.


8. Who said solar panels have to be unsightly? Many times, good engineering or technology’s designs/practices are hampered by social perceptions. These solar trees, found in an Adelaide plaza, were inspired by the mallee tree, which is indigenous to Australia. Energy harnessed by the trees is directed into the electricity grid and, at night, the trees are a light source for the plaza.
Defining Internships

**in·turn·ship** n. a student program of temporary, supervised work in order to gain practical experience, before graduation, related to career goals

**INTERNSHIPS MAKE** students more attractive to the companies for which they work and to other potential employers after graduation. This is reflected in the outstanding starting salaries that students with strong internship backgrounds have been able to attain.

**The potential for gaining employment after internship is extremely high.**
Employers use internships as a prescreening method during hiring. Repeat internships also are very frequent. Placement is very diverse, but includes:

- farms
- agricultural equipment companies
- tractors and mobile machinery
- irrigation and drainage
- grain handling, drying, and processing
- agricultural commodity processing facilities
- food companies
- local agricultural businesses
- seed/feed/fertilizer operations
- equipment dealerships
- precision agricultural specialists
- agricultural building firms
- engine and power train component manufacturers and distributors.

Applications of specialty areas are available, too, within precision agriculture technologies and bio-based energy and its support systems. There also are overseas experience opportunities with companies such as Deere, CNH, CAT, Parker, and ADM.

**Sometimes an internship is structured to have specific learning objectives.**
Student interns can earn college credit. Often, there is no official link to the university; however, the experience complements the degree tremendously. This experience is most often a blend of hands-on work such as building, operation, testing, and repair — and associated office work such as inventory management, data collection, sales and marketing, and/or report writing. Companies expect interns to do real work using skills and abilities already acquired, but they also give students exposure to the career opportunities awaiting them upon graduation.

**Students find internships in several ways, which vary among colleges.**
Generally, there are internship (and full-time) employment coordinators who facilitate contacts and match student interests with company openings. Often, alumni and employers provide job descriptions directly to the faculty, hoping to find suitable interns. Additionally, most departments and colleges have career days, which help companies fill both internship and full-time opportunities.

**The advantages of an internship:**
- **Motivation** — confirms that much of the student’s coursework is applicable to the job
- **Direction** — provides help for choosing courses in the future
- **Clarity of goals** — defines what students do or do not want to do for a career.

*Editorial assistance provided by Dennis Buckmaster and Dan Ess, Purdue University associate professors, Department of Agricultural and Biological Engineering.*

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**Tips for a Student from a Successful Intern**

By Shawn Ehlers

**Build up overseas experience.**
Purdue University, like most colleges, has many study abroad opportunities. Some are specifically for the College of Agriculture. I found that graduates with international experience are very appealing to companies looking to hire. Studying abroad experience shows diversity and broadens your view to an international level. Leverage your experiences in the post-college market! Weave your experience into résumés and job interviews!

**Consider your choices.**
ASM offers broad opportunities in agriculture, management, technology, and industry. I have an agricultural background, but my interests lie in pursuing a career in technology. My advice? Envision your ideal career and determine whether or not ASM can help you achieve it.

**Emphasize your well-rounded lifestyle.**
My hobbies helped me acquire my internship. Companies look for interests that demonstrate technical skills, mechanical skills, teamwork, personal achievement, and commitment. I am involved in tractor restoration, car building, fishing, woodworking, and farming. I also belong to the Purdue Trap and Skeet Club, Fishing Club, and Ski Club. It does make a difference!

Shawn Ehlers, profiled on page 21, is a Purdue ASM senior and employee of Cummins, Inc.
Ins and Outs of Interning

Shawn Ehlers

SCHOOL: Purdue University, ASM senior
INTERNSHIP: Cummins, Inc., headquartered in Columbus, Ind., designs, manufactures, distributes, and services engines and related technologies, including fuel systems, controls, air handling, filtration, emission solutions, and electrical power generation systems.
FAMILY/HOME: Versailles, Ind., where Shawn is the sixth generation to live on the family farm. His mother is an extension educator for Purdue. His father runs the family grain crop operation.
HOBBIES: Fishing, hunting, restoring antique John Deere tractors, trap shooting, skiing, and cars

TWO OF the programs Purdue University offers are agricultural and biological engineering (ABE) and agricultural systems management (ASM), a more technology-oriented program. ASM is in the department of ABE. It has many similarities to ABE but is more technology and management oriented. ASM offers a large range of classes that allows students to fine-tune the degree program to better fit their career goals. I spent my freshman and sophomore years in the ABE program before switching to ASM.

Get with the advantages
Just one of the advantages of an internship is that it allows a company or organization to observe your capabilities. It also allows you to “interview” a company with hands-on experience prior to making a career commitment.

My experience, interning with Cummins, Inc., during summer ‘08, was fantastic! Not only did the company treat me with respect as a co-worker, but also I felt that my work contributed to the company’s goals. A summer internship is a good basis on which to decide whether or not a company is the right place for you.

The previous summer, I worked with a county land surveyor, while many of my peers interned with John Deere, Case, Archer Daniel Midland, government ag agencies, Caterpillar, and seed companies. Many of them enjoyed their experiences and want to return for another internship or full-time employment. Some decided to step back and reevaluate their career goals and adjust their paths accordingly.

Interns are important to companies
Internships provide a screening process for companies as well as students, without a permanent commitment. Interns undergo a brief orientation, which allows for an easy transition into a full-time position — provided a successful internship, of course.

In my internship, I worked for a supervisor who utilized my skills to provide the services he needed. I also sorted and analyzed engine test data for future products. My title was Mechanical Development Intern for Mid-Range Engineering, and I focused on the U.S. EPA guidelines for emissions for 2010 engine products.

The future?
We are in an era of energy- and environment-driven technology, which creates a wide spectrum of career opportunities for students entering the workforce. The future of the ag tech workplace is in technical training. The ag industry is becoming technologically advanced to increase productivity and decrease waste. These can be achieved only by research, knowledge, and commitment to supply this high demand. Training in computer-assisted technical problem solving, management skills, personality skills, and a good work ethic are all vital to becoming successful — not just as an intern!
Discovering What’s for YOU

Charles Barrett

HOME: Greenville, now living in New Bern, N.C.
CURRENT POSITION: Loan officer, AgCarolina Financial
HOBBIES/INTERESTS: Church and mission work, sports, learning
ALMA MATER: North Carolina State University
MAJORS: Agricultural and Environmental Technology and Agricultural Business Management

I began my studies in engineering at North Carolina State University (go, Wolfpack!), not knowing which engineering discipline I wanted to focus on. I chose ag and environmental technology during my sophomore year. As my college career progressed, I realized that the classes I was taking were not hands-on enough for me, so I looked for other options. After reading course descriptions in the ag and environmental curriculum, I decided that it was for me!

Before making my final decision, I set up an appointment with Andy Hale, the department dean. His friendliness and excitement helped convince me that this was the right decision for me.

For a summer stint, I interned for Amadas Industries, Inc., a manufacturer of peanut harvesting and irrigation equipment. I enjoyed the work and learned a lot. I was able to increase my welding, shop, organization, computer, and design skills. But most importantly, I learned that manufacturing is not what I desired for my career path. After finishing this internship, I sought other opportunities where serving people was the point of a day’s work.

I chose the job I have now mostly due to my internship experience. I discovered this about myself, and the summer job opened my eyes to a particular kind of job that wasn’t for me.

In my position with AgCarolina, a typical day usually begins with catching up on paperwork — a loan or some other kind of servicing action — in the morning. If I have a lot of loans to work on, I might be in the office all day. If not, I am out of the office either visiting customers or trying to find a loan.

The biggest satisfaction I get in the work I do is from helping someone. If someone wants to invest but does not have the capital to buy, I am here to help. I really enjoy talking with customers about rural life.

The biggest frustration also is one of the good things about this job — sometimes the hours are unpredictable. I might need to work late one night on a loan package or go to an extension service meeting. The majority of the time, though, this is an 8-to-5 job. However, there are other duties of a loan officer that exceed these hours.

This isn’t my “dream job” — something in church or mission work would really excite me — but my family is just excited that I have such a good job! And my friends are slightly jealous of my work and work schedule!

If you like hands-on activities related to agriculture, ATM is the major for you!
Q: What changes have you noticed in incoming students (and their parents) during the time that you’ve been involved in admissions?

A: I have been involved in admissions since 1975 (yes, I am quite ancient!). The biggest change is this — while there has always been some anxiety connected with applying to college, in 1975 it was still possible to see it as being primarily a joyful experience — a great milestone in life, the start of one’s adulthood, and a chance to think expansively about broadening oneself intellectually and socially. School counselors had a pretty good sense of which colleges a student was likely to be admitted to. You could spend your senior year of high school feeling like a little kid about to enter a candy store — fantasizing about the courses you’d be taking, the new people you’d be meeting, the groups you’d be joining, about being away from home, etc.

Nowadays, a lot of the joy has been squeezed out of the experience. Students and parents spend too much time worrying and trying to “game” the system. To hedge their bets, they apply to a larger number of schools. College guides, such as US News and Money Magazine, exacerbate the problem, since they focus everyone’s attention on a relative handful of colleges that are not only tough to get into, but may not be the best choices for many students even if they could get into them. What should be joyful has become a tense and, for some, a very dismal senior year.

Q: Have you noticed an increase in legacy students — those whose parents are alumni?

A: We see roughly the same number of applications each year from students who have a parent who is a UD graduate. Frankly, I see it as an implicit compliment — it is great when parents have had such good experiences at UD that they want their children to attend. We also are flattered by the large number of younger siblings who apply each year. There, too, a family is paying us a great compliment by sending a second (or third, or fourth!) child to Delaware.

Q: Other than financially, how can parents best support their student?

A: Unconditional love is always a great support. Another is letting your child make his or her own decisions and his or her own mistakes. Both are great gifts that I received from my own parents.

Q: What’s the single best advice you can give to students (or what do you wish you had been told when you applied to college)?

A: When you visit college campuses, focus a lot on the enthusiasm you see in the students who attend and in the people who work there. As you walk around campus, keep asking this question, “Do you like it here?” Don’t be shy about asking this question. Campus morale will have a tremendous impact on your college experience. It is great to be taught by professors who enjoy what they are...
Aloha!

Interview with Charles M. Kinoshita, associate dean of the College of Tropical Agriculture and Human Resources at the University of Hawaii at Manoa

Q Given your position, what's the college application process like?
A “Apprehension” describes it. All colleges are concerned about enrollment, the quality of students coming to the college, and being able to serve the students.

Q What have you noticed about incoming students and their parents?
A We’ve seen a slight increase in the incidences of helicopter parents, but we’re usually able to cope with them!

Q How can parents best support their student?
A Give the students moral support, show interest in the student’s performance and problems, and query the students, not university administration and staff. If parents have good dialogue with the student, they won’t need to call the university to keep tabs. University administrators are not able to provide any information to parents anyway.

Q What’s the single best advice you can give to students?
A Try to achieve some level of balance between studying and maintaining personal time for yourself. Also, find good colleagues and study with them.

Q What can applicants do to offset ho-hum grades?
A Participate in meaningful internships. Successful work experiences look good to employers and university administrators, and are very helpful to academic success. For students who don’t have stellar academic records or strong exam scores, we look for diverse experiences, volunteer service, and signs of strong leadership qualities.

Q What’s the best thing about your job?
A I have the best job in the world! I frequently meet with incoming and other students and suggest ways for them to become successful during what is arguably the most important phase of their lives.
Interview with Wayne Paquet, registrar at the Nova Scotia Agricultural College at Truro, N.S.

**Q** What's the process of admissions like for you?

We are in an enviable position in Atlantic Canada of having many university programs that are undersubscribed, which is an excellent situation for students. As long as they meet our admission requirements, there is a good chance that they will be admitted into their first program of choice. This makes for a relaxing overall admissions process. Students still need to get their application packages in on time and compete for scholarships, but they worry less about securing spots in their university or program of choice. They have more time to investigate the university and program, and to make an informed decision about what is in their best interests.

**Q** What have you noticed about incoming students (and parents) while you've been involved in admissions?

A Both students and their parents expect a higher level of service than in the past. Universities like the Nova Scotia Agricultural College are under increasing pressure to communicate frequently with students throughout the admission process. Our university has increased the number of contacts that we have with prospects and applicants, and we are seeing some positive effects from this work. We also have had students tell us that they applied to multiple institutions and that one of the deciding factors in choosing the Nova Scotia Agricultural College was that we contacted them personally several times and the student felt that we genuinely cared.

**Q** Have you noticed an increase in legacy students?

A As a small, specialized university, we have always had a large number of students whose parents, grandparents, or siblings attended. Our institution isn’t as well-known as many of the larger comprehensive universities, so we depend on word of mouth to share the message about our high-quality programs and excellent overall student experience. Alumni play a key role, not only in recruiting their sons and daughters, but the sons and daughters of their friends and neighbors.

**Q** How can parents best support their students?

A Find a balance between letting them experience life on their own while also being there for them when they need you. This can start with the admissions process and continue when the students start their university studies. We have some parents who do all of the admissions preparations. They fill out the application, pay the bill, request transcripts from the high schools, and even follow up on the status of the application. In my mind, this does not engender a sense of independence in the student. Give students the opportunity to take on new responsibilities but support them with lots of advice and hugs along the way.

**Q** What's the best advice you can give to students?

A Pick your program carefully. Consider three issues when you select a program: 1) choose a program that you are interested in, 2) select a program in which you have some natural ability, and 3) pick a program with some idea of what general career you plan to pursue. Many students pick a program based solely on their personal interest without considering whether it is an area in which they have some natural skills or what career they may want to enter when they graduate. I have seen students enter programs for which there are no job opportunities, and this has left them jaded after graduation. I have also seen students enter programs in which they didn't have any natural ability, and the end result was academic dismissal, often despite a lot of hard work.

**Q** Some students have abilities that aren’t reflected in their grades or test scores. What can they do?

A I always recommend that students send a letter explaining their interest in a program and why their overall experience (academic, work, extracurricular) would make them an excellent choice for the program. This is particularly important for students who don’t meet all of the admission requirements. This information may result in a different assessment by an admission officer and is particularly useful when trying to differentiate two equally qualified students or when assessing a student who doesn’t meet all of the admission requirements.

**Q** What’s your best job story?

A It is difficult to pick one, but I guess my favorite is working with World University Services Canada (WUSC). Each year, our university sponsors a refugee to study for free at our institution. Despite the fact that many of these students have strong academic backgrounds, it is always a difficult transition for them. They are in a refugee camp in Sudan or Ethiopia one day and here in Canada at the Nova Scotia Agricultural College the next. Two years ago, we had our first WUSC student graduate, and it was very exhilarating and humbling to think that I played a small part in this incredible person’s development.
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In Search of the
PERFECT SCHOOL

Where to begin... The schools listed below have programs in agricultural systems and technology. Contact them directly for more information. They will be happy answer your questions and arrange for you to visit their campuses. Many of these programs are administered by the agricultural and biological engineering departments. Start your search today!

California Polytech. State Univ.
Agr. Sys. Mgmt. Program
San Luis Obispo, CA 93407
Phone: 805-756-2376
www.bae.calpoly.edu

California State Polytech. Univ.
Landscape Irrigation Science Program
3801 W. Temple Ave.
Pomona, CA 91768
Phone: 909-869-2084
www.csupomona.edu/~lis/ctilt.html

California State Univ. - Fresno
Plant Science Dept.
Mail Stop AS-72
Fresno, CA 93740
Phone: 559-278-5724
www.csufresno.edu

Clemson Univ.
Agr. Mech. & Business Program
221 McAdams Hall
Clemson, SC 29634-0312
Phone: 864-656-4077
virtual.clemson.edu/groups/agbioeng

Cornell Univ.
Biological & Environ. Eng. Tech. Program
Riley Robb Hall
Ithaca, NY 14853-5701
Phone: 607-255-2173
www.eng.cornell.edu

Fort Valley State Univ.
Agr. Eng. Tech. Program
Ellison Bldg.
Fort Valley, GA 31030-4313
Phone: 478-825-6275
www.fvsu.edu/academics/agriculture

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Who’s Hiring?

What kind of company is interested in ATM grads?

By Ron Wilson

THE YEAR is 1960. A young man with roots in rural Kansas is building a project in the shop for his high school vocational agriculture class. The project he has chosen is a trailer and, after hours of work, he has welded the frame, mounted the tires, and painted the wood. The trailer turns out so well that it wins an award from the Lincoln Welding Co. in Ohio. Who would have guessed that his experience, which was rooted in building a trailer, would lead to not only a career but a major company?

Don Landoll is the founder and CEO of Landoll Corp. in Marysville, Kan. Don remembers his roots — that he was the young man who received that award from Lincoln Welding for building his first trailer in the vo-ag shop back in 1960. Welding is a useful skill to have in a rural community, and Don grew up near the rural community of Hanover, with a population of 632 people. Now that’s rural.

After graduating from high school, Don wanted to join the Air Force, but he failed his physical, so he came back home and went to work for a local farm equipment dealership. In 1963, he and a partner bought a welding shop in the nearby town of Marysville, and he put his skills to work. Along with a hired employee, it was a three-man shop. When his partner went to work for the railroad in 1967, Don became the sole owner.

Don continued to weld, but he knew the greatest opportunity for success would be in manufacturing products of his own. His first product was a slip-in stock rack for pickup trucks, and then he expanded into trailers and farm tillage equipment. Don diversified and grew the business over time.

Today, Landoll Corp. is an incredible success story. The company currently employs 640 people. It has grown by 100 employees from just a year ago, and Don said, “We’d take more if we could get them.” As an illustration of how important such a business is to the rural communities around it, the company employs people from 43 zip codes.

The level of manufacturing at Landoll Corp. is world-class. The company uses state-of-the-art 3-D modeling through ProE CAD engineering software. The company’s equipment includes laser and water jet metal cutters, which can cut steel, aluminum, stainless steel, and even rubber with precision.

The sprawling 500,000-square-foot production facility houses a host of CNC machines, modern powder-coating booths, and much more. In addition to 100 conventional welders, there are seven robot welders with robotic arms up to 10 feet long.

Landoll Corp. products include trailers, agricultural equipment, forklifts, earthmovers for Icon Industries, and government contract vehicles. Through it all is an emphasis on quality.

The result is that Landoll Corp. has become a global supplier. Landoll customers can be found in the United Kingdom, Russia, China, Japan, Guam, Australia, India, Kuwait, Saudi Arabia, South Africa, Brazil, Uruguay, Egypt, and more.

It is exciting to see a rural company start from virtually nothing and rise to global success. Yet while looking to the future and considering opportunities for aspiring, job-searching ATM graduates, Don also remembers the roots from which he came. In August 2008, the president and CEO of Lincoln Welding Company — the same business that gave Landoll an award for his first trailer 48 years ago — came to visit the Landoll Corp. As Don and the Lincoln CEO toured the production facility, they saw that award-winning trailer, still on display.

Ron Wilson is the director of the Huck Boyd National Institute for Rural Development at Kansas State University.
AG SYSTEMS graduates are in high demand. Depending on qualifications and experience, starting salaries typically range from $35,000 to $50,000. For more information, check with individual schools regarding their placement records.

Jobs and Employers

Hershey Foods
Hog Slat, Inc.
Hormel Foods Corp.
IBM
Ingersoll Rand
Kinze Mfg. Co.
Koebler
Kraft Foods
Kubota Tractor Corp.
Landoll Corp.
Liner Source, Inc.
Monsanto
Morton Buildings
Mustang Tractor
National Instruments
Parker Hannifin
Peace Corps
Pella Corp.
Pillsbury
Pinnacle Food Group
Pioneer Hi-Bred
Polaris
Purina
Quaker Oats
Rain Bird
Raven Industries
Spreckles Sugar Co., Inc.
Soil Conservation Service
Spraying Systems, Inc.
Sukup Mfg. Co.
Techmark
The Dial Corp.
Toro
Tyson Foods, Inc.
USDA
Valmont Industries
Vermeer

Prospective Employers

This list — a short sampling and by no means complete — provides examples of companies that employ ag systems graduates:

- Aerotech
- AgCarolina Financial
- AGCO
- Ag-Chem Equipment Co.
- Ag Leader Technology
- Amadas Industries
- Archer Daniels Midland
- Blue Bell Creameries, Inc.
- Bobcat
- Cargill
- Case-New Holland
- Caterpillar
- Conex-Land-O-Lakes
- ConAgra
- Cummins, Inc.
- Dairyland Seeds
- Deere & Company
- DeKalb-Pfizer Genetics
- Detroit Diesel
- Dole Fresh Vegetables
- Eaton Corp.
- Eli Lilly
- EPA
- FMS
- Farm Credit Service
- Farmland Industries
- FieldStar
- Frito-Lay
- Gehl
- General Electric
- General Mills, Inc.
- Gilardi's Frozen Foods
- Government agencies
- Growmark, Inc.
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- Eligibility to compete in ASABE’s annual Quarter-Scale Tractor Student Design Competition held in May of each year.

**Don’t forget the ASABE Student Branches**

Most of the universities listed on page 27 have ASABE student branches. These clubs provide an excellent opportunity to meet, work, and have fun with other like-minded students. The branches organize technical tours to local industries, develop their own fund-raising events, host cookouts and receptions for alumni and faculty, form athletic teams, take trips, compete as a team in ASABE international competitions, and get together to have fun.

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If you would like to learn more about becoming an ASABE student member, call us toll-free at 1-800-371-2723 or at 269-429-0300. In addition, you can visit our Web site at www.asabe.org, where you’ll find a wealth of information about the Society and student membership.

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