TEXAS A&M UNIVERSITY

College of Agriculture and Life Sciences

Here are some ways the College is working to meet our five grand challenges:

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Protecting Our Environment

- A faculty member is studying barrier islands, beaches, and dunes for clues to the ways natural and man-made changes affect fragile ecosystems.
- Faculty members are using computer modeling and spatial sciences to map watershed contamination.
- Researchers are studying high-cellulose plants and microalgae to produce biofuels that could transform the nation's energy use.

Enriching Our Youth

- The Agricultural and Natural Resources Policy Internship Program, now in its 22nd year, prepares 90 students per year to become future policy leaders through experiences in Washington, D.C., and Austin.
- The Youth Development Initiative provides research and evaluation to improve youth programs and train those working with young people.
- Abriendo Puertas (Opening Doors) and Hispanic Leaders in Agriculture and the Environment provide college access and ensure success for Hispanic students across Texas.

Improving Our Health

- College faculty members serve on national panels that set federal nutrition guidelines, helping to establish a basis for better health and to combat obesity, cancer, and heart disease.
- Our faculty members are developing rapid-detection methods for cancer as well as anti-aging solutions and cancer-prevention strategies.
- Faculty members are developing new fruit and vegetable varieties with disease-prevention properties and studying the mechanism of those effects.

Feeding Our World

- Through partnerships with universities and private organizations in southern Africa, we have a network of programs and facilities where our students receive training while helping to advance African agriculture.
- Faculty are developing high-yield, drought-resistant crops for both the United States and Africa, with the goal of developing improved varieties to supplement marginal diets.
- Over 400 students participated in 24 study abroad courses and 7 reciprocal exchanges in 18 countries in the 2011–2012 academic year.
- Through a Bill and Melinda Gates Foundation grant, the Borlaug International Scholars Program trains graduate students from developing nations.
- Through our advancements in crop systems, animal science, and use of water or other natural resources, we are increasing food production in the United States and global food security.

Growing Our Economy

- Students learn and experience entrepreneurship as they develop and "pitch" their own company concepts to national business leaders in Rural Entrepreneurship classes.
- Faculty members are revolutionizing the area of biofuels, including their design, chemistry, production, and marketing as well as the business and natural resource policies they impact.
- Faculty researchers are adding value to raw food and fiber materials by making products safer, more convenient, and readily available.
- Our College undergraduates completed 2,365 research projects, 136 conference presentations, 52 publications, 892 internships, and 667 service learning projects in 2011–2012.

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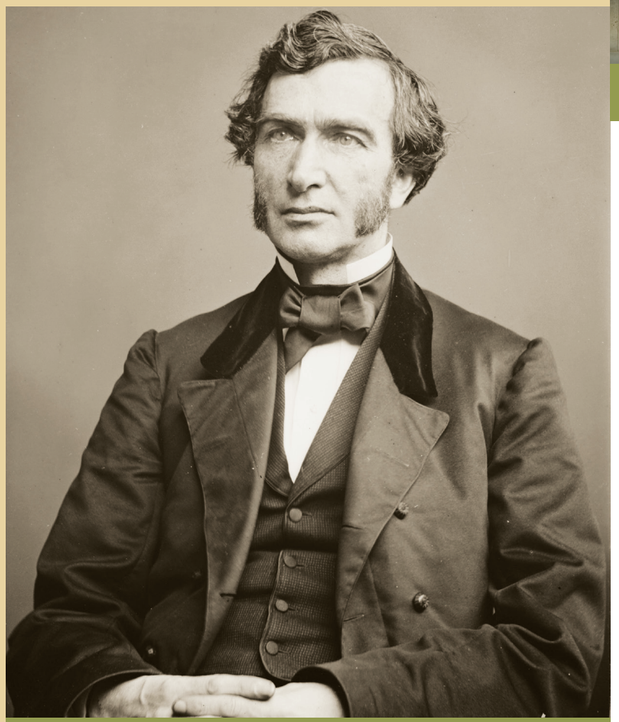

". . . especially to the sons of toil, where all of needful science for the practical avocations of life shall be taught . . ."

—Justin Smith Morrill
U.S. Representative and Senator, author of the Morrill Land-Grant College Act, 1862

In 1862, President Abraham Lincoln signed the Morrill Act into law, making higher education more accessible for people in every state. It paved the way for the creation of Texas A&M University. The Morrill Act became the foundation of an unparalleled educational and scientific land-grant system with the addition of agricultural experiment stations (Hatch Act, 1887), Prairie View A&M University and other 1890 land-grant institutions serving black students (Second Morrill Act, 1890), and the cooperative extension service (Smith-Lever Act, 1914).

Today, the College of Agriculture and Life Sciences' land-grant legacy means protecting our environment, enriching our youth, improving our health, feeding our world, and growing our economy.

In the words of President Lincoln, "The land-grant university system is being built on behalf of the people, who have invested in these public universities their hopes, their support, and their confidence."

One College. Five Grand Challenges.

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From the Dean

The world faces many complex challenges in 2013, and our nation once again looks to its land-grant universities to find solutions for feeding our world, protecting our environment, improving our health, enriching our youth, and growing our economy. As we provide our diverse student body with a practical education — especially in the science, technology, engineering, and math (STEM) courses that prepare them for careers in today's job market — we continue to conduct research and engage with the world around us. The students we educate and the scientific advancements we share make life better for millions, in Texas and around the world.

From long-established majors such as horticulture and animal science to newer programs such as forensics and ecosystem sciences, the College is widely recognized as a leader in dozens of academic disciplines. Our award-winning faculty members are discovering the fuels of the future, unlocking genetic mysteries to cure diseases, and working to ensure the safety, nutritional value, and abundance of our food supply.

Our enrollment was 7,265 in the fall of 2012, and we still have one of the highest numbers of students at Texas A&M who are the first in their family to attend college. The value we place on tradition means even more now that the College has passed its century mark and we have celebrated the 150th anniversary of the Morrill Land-Grant College Act. As we look forward to a bright future for our students, our College, and our nation, we remember what it took to get here as we sharpen our skills to meet the five grand challenges that lie ahead.

— Dr. Mark A. Hussey
Vice Chancellor and
Dean for Agriculture and
Life Sciences

Protecting Our Environment

Agriculture and a healthy environment must go hand in hand. The College is committed to environmental sustainability and restoring the health of our ecosystems. Our students can follow their passion by creating parks and green spaces, protecting wildlife, and guarding the health of our water bodies and fisheries. With Texas A&M AgriLife Research and the Texas A&M AgriLife Extension Service, the College is involved in many projects in these areas, including restoring military training grounds at Fort Hood, surveying and protecting endangered wildlife species, revitalizing rangelands, designing parks and trails throughout Texas, studying the effects of climate change, and developing biofuels for a clean and secure energy future.

Enriching Our Youth

We prepare students to be leaders in solving the world's problems. Whether they choose medicine, engineering, business, environmental conservation, education, journalism, or food production, students can start their career in our College. In addition to a world-class education, our students have a full range of experiences to enrich their classroom learning. Study abroad, field experiences, internships, undergraduate research, and a wide choice of clubs and student organizations all allow students to develop leadership, organizational, and communication skills to become society-ready graduates. Our faculty and programs specializing in youth development and community development, particularly for at-risk youth in both urban and rural settings, equip our students to address the many complex issues facing today's young people. Students also can choose from major programs in teacher training and certification as well as communications and journalism.

Improving Our Health

From recreation and weight control to designing fruits and vegetables with more phytonutrients for cancer prevention to using the latest biotechnology advancements to search for new drugs, the College is dedicated to improving health. Our students in the life sciences will be among the research scientists and technicians, physicians, pharmacists, and biotechnology engineers of the future. We believe in taking a leadership role in health by providing students and researchers with state-of-the-art equipment and facilities to investigate such areas as structure-based drug design using X-ray crystallography combined with computer bioinformatics to find the right drug to target a specific disease. Other research is aimed at finding nontoxic "smart drugs" that can be carried by nanoparticles directly to disease sites in the body.

Feeding Our World

Growing populations, decreasing natural resources, and increasing environmental challenges present us with opportunities to find the most efficient and healthful ways to provide food for all, both domestically and globally. Our faculty and students work at scales ranging from the molecular to the industrial to develop best practices for growing, processing, and distributing food that is safe, high in quality, and abundant. Air quality and the sustainable use of land and water resources — as well as the impact of trade practices and governmental policies — are areas of active research, teaching, and extension by our faculty. In addition to improving our own food supply, our faculty and students are helping other nations become more food secure, which in turn can prevent conflict around the globe. The world's interconnected society and commerce make getting a global education critical to today's graduates as they help to meet the food needs in other countries by knowing their customs as well as their production constraints. Study abroad offers an important opportunity for our students to gain that understanding.

Growing Our Economy

Producing more, selling more, adding value, and increasing the safety and security of what we trade are all ways the College is growing our economy. Food and agricultural resources are more expensive today, in part because the population and economies of the world are growing. The United States has greater competition in the global marketplace because more countries are producing goods. As a result, their citizens have more disposable income. This provides us with an opportunity to reach new markets, use technology and innovation to add value to existing products, and create new products to meet previously unseen needs. We must do this in a way that ensures consumer safety and the security of global interests while protecting the environment from increased pressures on land, air, and water needed to produce more food and fiber.

Enrollment and Student Demographics 2012–2013

(U) Undergraduate (M) Master's (D) Doctoral (T) Total

	(U)	(M)	(D)	(T)
Agricultural Economics	575	75	62	712
Agricultural Leadership, Education, and Communications	1,113	86	64	1,263
Animal Science	871	68	39	978
Biochemistry and Biophysics	328	8	138	474
Biological and Agricultural Engineering	374	46	47	467
Ecosystem Science and Management	203	51	39	293
Entomology	206	12	43	261
Horticultural Sciences	175	19	20	214
Nutrition and Food Science	622	35	25	682
Plant Pathology and Microbiology	265	9	27	301
Poultry Science	142	27	11	180
Recreation, Park and Tourism Sciences	438	35	45	518
Soil and Crop Sciences	132	39	77	248
Wildlife and Fisheries Sciences	402	79	70	551
College General Studies	123	0	0	123

Total students 7,265
Undergraduate 5,969
Master's 589
Doctoral 707

Past enrollment
Fall 2011 6,984
Fall 2010 6,834
Fall 2009 6,470
Fall 2008 6,694

Gender
53% female
47% male

Ethnicity and race
White, Non-Hispanic 70.4%
Hispanic 15%
International 7%
Black, Non-Hispanic 3.6%
Asian or Pacific Islander 3.3%
American Indian 0.4%
Other 0.3%

College of Agriculture and Life Sciences at a Glance
14 Academic Departments
31 Undergraduate Degrees
37 Master's Degrees
24 Doctoral Degrees
6 Online Graduate Degrees