



COLLEGE of
Food, Agricultural, and Environmental Sciences



Strategic Plan

College of Food, Agricultural, and Environmental
Sciences

The Ohio State University
2011-2016

Strategic Planning at The Ohio State University

Supporting Faculty, Students, and the Structures that Foster their Success

Ohio State's future will be defined and driven by an unwavering commitment to our faculty, students and the structures—physical, administrative, curricular, and financial—that will foster their success. Such a commitment is founded in the overarching principles of the institution's vision, mission, values, and core goals.

VISION

The Ohio State University is the model 21st-century public, land grant, research, urban, community engaged institution.

MISSION

The University is dedicated to:

- Creating and discovering knowledge to improve the well-being of our state, regional, national and global communities;
- Educating students through a comprehensive array of distinguished academic programs;
- Preparing a diverse student body to be leaders and engaged citizens;
- Fostering a culture of engagement and service.

We understand that diversity and inclusion are essential components of our excellence.

VALUES

Shared values are the commitments made by the University community in how we conduct our work. At The Ohio State University we value:

- Excellence
- Diversity in people and of ideas
- Inclusion
- Access and affordability
- Innovation
- Collaboration and multidisciplinary endeavor
- Integrity, transparency, and trust

CORE GOALS

Four institution-wide goals are fundamental to the University's vision, mission and future success:

Teaching and Learning: to provide an unsurpassed, student-centered learning experience led by engaged world-class faculty and staff, and enhanced by a globally diverse student body.

Research and Innovation: to create distinctive and internationally recognized contributions to the advancement of fundamental knowledge and scholarship and toward solutions of the world's most pressing problems.

Outreach and Engagement: to advance a culture of engagement and collaboration involving the exchange of knowledge and resources in a context of reciprocity with the citizens and institutions of Ohio, the nation, and the world.

Resource Stewardship: to be an affordable public university, recognized for financial sustainability, unparalleled management of human and physical resources, and operational efficiency and effectiveness.





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Letter from the Dean



The 21st century opened to a revolution in bioscience knowledge, with the agbiosciences at the forefront of addressing high-priority challenges and opportunities of global scope and importance. Rapid advancements in the agbiosciences will provide unprecedented opportunities for economic growth in Ohio.

The College of Food, Agricultural, and Environmental Sciences (CFAES) is the single hub for agbiosciences research, teaching and outreach in Ohio. As such, it is ideally positioned to lead the state and The Ohio State University in realizing progress in all significant aspects of the bioeconomy.

Agbiosciences

Agbiosciences starts with the coming together of agricultural and life sciences. This, of course, is nothing new. These disciplines have been integrated in the work CFAES has conducted for a long time, addressing issues of agricultural production and productivity, food processing technologies, and the management of natural resources.

What is new is the increased focus on moving beyond (while certainly not away from) the “traditional” application of agricultural and life sciences to issues pertaining to farms, food processors and natural resources. Agbiosciences applies research to provide solutions for a host of activities/industries traditionally thought of as separate from agriculture: medicine, energy and fuels, advanced materials, environmental remediation, and many others. It is the connection of advanced agricultural inputs, farm products, and value-added processing to produce more and better foods and a host of industrial and commercial goods.

Ecological Paradigm

Underpinning the college and its work is the **Ecological Paradigm**. The ecological paradigm ensures that all work in the college be measured against four imperatives. It requires that research, Extension programming, and classroom curriculum reflect:

- **Production Efficiency**
- **Economic Viability**
- **Environmental Compatibility**
- **Social Responsibility**



Connecting the agbiosciences and the Ecological Paradigm, CFAES has identified three Signature Areas that align the state's highest needs with the college's greatest strengths. They are focused on advancing education, scholarship, knowledge, and information dissemination in the following areas, and constitute the college's strategic direction over the next five years.

- **Food Security, Production, and Human Health**
- **Environmental Quality and Sustainability**
- **Advanced Bioenergy and Biobased Products**

These Signature Areas align with the university's Discovery Themes of **Food Production and Security; Energy and Environment; and Health and Wellness.**

Complementing our Signature Areas are multiple collaborative university efforts in which CFAES plays a key role.

Among those is the Office for Energy and the Environment (OEE), whose mission is to advance Ohio State's national role and success with solving global energy issues while promoting environmental sustainability.

The Food Innovation Center is addressing the escalating importance of food security and production in the world. The center will provide the latest discoveries to advance food issues, broadly defined, and will focus on food safety, functional foods, sufficient food supplies for the world, the cost of food, agbiosciences, business, economics, policy, engineering, medicine, and health.

The Center for Applied Plant Sciences, in conjunction with the College of Arts and Sciences, will facilitate the translation, or connection, between basic research and applications in areas such as photosynthesis and carbon fixation, biomass and bioproducts, crop production enhancement, and plant-microbe interactions.

In addition, the college's Centers of Innovation are designed to bring research discoveries to market. We believe all of these collaborative efforts are pivotal in propelling Ohio State to be the "land-grant to the world."

Sincerely,

A handwritten signature in black ink that reads "Bobby D. Moser".

Bobby D. Moser
Vice President, Agricultural Administration
Dean, College of Food, Agricultural, and Environmental Sciences



College Overview

Our Vision: We Bring Knowledge to Life

CFAES will propel The Ohio State University to be the preeminent U.S. university in the agbiosciences and a land-grant to the world. The college will be the standard of excellence for comprehensive food, agricultural, and environmental science programs at public research universities. We will be acclaimed for the integration of cutting-edge research, teaching excellence, and innovative outreach programs that solve highly complex interdisciplinary problems. The college will focus on critical problems faced by Ohio, the nation, and world. We will accomplish much of this in collaboration with other colleges at Ohio State. Our programs will assure that Ohioans and the nation will have the research and education needed to advance in an economically sustainable, but environmentally compatible and socially responsible way. We will educate women and men so they are prepared to address the rapidly changing needs of a global economy. We will provide outreach programs that enable communities and businesses to remain economically vibrant and help families and young people to prosper. With growth in knowledge emanating from our scholarly pursuits, our local to global impacts will be underpinned by the best science.

Core Values

- Discovery
- Lifelong learning
- Science-based knowledge
- Academic freedom
- Civility and professionalism
- Diversity

Our Goal

To be the standard of excellence for colleges of food, agricultural, and environmental sciences.

Our Indicators of Success

We will know progress is being made toward our goal when:

- Integrated teaching, research, and extension focus on economic, environmental, social, and production issues.
- Faculty, staff, students, and external partners operate as co-learners.
- Diversity is evident throughout the college.
- We open the world to our students, stakeholders, staff, and faculty.
- The best faculty, staff, and students seek to work and learn here.
- Employers actively seek our graduates.
- Our alumni are leaders and recognized professionals.

Strategic Scan



The College of Food, Agricultural, and Environmental Sciences is one of the most collaborative colleges on campus and is a major investor in faculty and resources in other colleges across the university. These long-standing investments of CFAES (via OARDC and OSU Extension funding) demonstrate the college's commitment to joint support of faculty across college lines. We provide significant funding to the Colleges of Education and Human Ecology (approximately \$1.6 million) and Veterinary Medicine (approximately \$2.5 million).

Through faculty/personnel support grants, OSU CARES helps fund positions in Pharmacy, Medicine, Office of Research, Education and Human Ecology, Veterinary Medicine, and Engineering, and has funded programs in 57 departments. Our leadership effort with OSU CARES will be expanded as we continue to seek opportunities to nurture trans-institutional teaching and research. In so doing, CFAES will facilitate extending the knowledge base from other colleges, via OSU Extension, throughout Ohio.

Faculty from CFAES are key leaders in interdisciplinary initiatives across campus, such as:

- OSU Office for Energy and the Environment
- Center for Applied Plant Sciences
- Food Innovation Center
- Leadership Studies Minor
- Environmental Sciences Network
- Interdisciplinary PhD program in Nutrition

External Strategic Scan

This strategic plan positions CFAES to address or continue to address these pressing issues:

- **Global Food Production and Security** — With a world population of 6.7 billion, projected to grow to more than 9 billion by 2040, sustaining growth in food production is of singular importance. Every day more than 860 million people go hungry worldwide.
- **Human Health and Nutrition** — Both quantity and quality of diet affect human health and performance. Malnutrition is the leading cause of lagging human capital performance in developing countries, while obesity increasingly plagues developed nations.

- **Biosecurity and Emerging Diseases** — Whether by natural or terrorist means, the threat of major disease outbreaks and food contamination events is a real and present danger.
- **Environmental Sustainability** — Sustaining population growth and economic growth must be balanced with preservation of natural resources and environmental assets.
- **Renewable/Green Resources and Products** — Linked with environmental sustainability is an urgent need for the development of ecologically benign resources for economic activity.
- **Climate Change** — The effects of global warming are of worldwide concern. AgBiosciences have an extremely important role to play in multiple aspects of the issue, including carbon sequestration, alternatives to natural gas-based fertilizers, and the reduction in the use of fossil fuel-based carbon emissions.
- **Renewable Energy** — With global fossil fuel energy prices at record levels, and legitimate concerns relating to carbon emissions from fossil fuels, the race is on to develop renewable energy sources with minimal environmental impacts. Biofuels have a substantial role to play in the future of the global energy supply.

Internal Strategic Scan

- Comprehensive work in the agbiosciences has been the distinctive purview of land-grant universities; and among these universities, Ohio State is a powerhouse research institution. There is little competition from private research universities.



- CFAES embodies the land-grant history, spirit, and mission of the university and can position Ohio State to become “land-grant to the world.”
- Ohio is home to six colleges of medicine and 10 universities that offer the traditional scope of engineering disciplines, but CFAES is the only comprehensive college of food, agricultural, and environmental sciences in Ohio.
- Having a single campus containing dedicated colleges with intensive and complementary expertise in agbiosciences, veterinary bioscience, human biomedical sciences, engineering, business, education, law, and arts and sciences is rare among the world’s leading research universities. As interdisciplinary science moves to the forefront in spurring groundbreaking discoveries, Ohio State’s rich bioscience connections represents a powerful resource for the university.

- Prospects for future funding in CFAES's Signature Areas are positive. Significant public and private resources are being directed toward bioenergy, biorenewable resource development, human health needs, food security initiatives, biosecurity, and environmental sustainability. CFAES is participating in more than \$30 million of Third Frontier awards.
- Innovations from CFAES are likely to be principal drivers of future economic development in Ohio. CFAES has a strong emphasis on translational and applied sciences, with an established track record in knowledge diffusion, technology transfer, and technology commercialization. The college maintains strong collaborations with industry and other stakeholder groups to facilitate research commercialization.
- CFAES has experienced significant success in building its base of grants and contracts. Office of Sponsored Programs expenditures for the college have increased from \$12.5 million in 2000 to \$35 million in FY 2011 (a 180 percent increase from 2000).
- Agriculture is the most distributed industry across Ohio, with operations in every county. It accounts for \$107 billion, or 11 percent of the state's total economic output and generates 13.5 percent of all employment in the state. Goodwill and political capital are built for the university through the county presence and influence of OSU Extension as well as the 12 locations for OARDC. As opportunities abound in biobased industrial products, agbiosciences holds the promise of stimulating new economic growth across existing and new economic sectors throughout Ohio.
- Our faculty routinely earn top awards and honors from home and around the world, including three members of the Academy of Sciences. In addition, CFAES was named a Center of Excellence in Agriculture, Food Production, and BioProducts in 2010.

CFAES has identified three Signature Areas that align Ohio's highest needs with the college's greatest strengths.

These Signature Areas align well with the university's Discovery Themes, including ***Food Production and Security; Energy and Environment; and Health and Wellness:***

Food Security, Production, and Human Health

Focused on improving agricultural production; enhancing the quality of food and feed; ensuring an adequate, affordable, and safe food supply; and maintaining agrosecurity to ensure food security and the basics of nutritional health for a growing global population.



Environmental Quality and Sustainability

Working to understand, protect, and remediate the environment and ecosystems to ensure long-term sustainability.

Advanced Bioenergy and Biobased Products

Developing biomass-based advanced energy technologies and value-added biobased products such as fuels, specialty chemicals, and fiber products.

These Signature Areas will be infused through all CFAES focus areas. As we work with students, engage in research and outreach, and invest in people and facilities, our priorities will sustain the Signature Areas.

In **Teaching and Learning**, our recruitment strategy seeks to attract and retain high-ability, diverse undergraduates. We aim to provide our students with excellent and engaging opportunities on campus and around the world.

In **Research and Innovation**, we will address local, state, U.S. and world needs, through a focus on our Signature Areas. We will work closely with external partners to move discoveries into the marketplace.

In **Outreach and Engagement**, we will deliver university discoveries, surrounding our three Signature Areas, into the hands of the people who can use them to better their lives, families, businesses and communities.

Resource Stewardship will allow us to support our other focus areas, by leveraging existing resources, identifying new revenue streams and managing uncertain funding cycles.

Succeeding in Our Strategic Focus Areas

Teaching and Learning (*provide an unsurpassed, student-centered learning experience led by engaged, world-class faculty and enhanced by a globally diverse student body*)

CFAES Strategic Focus Area 1. Intensify recruitment and retention of high-ability and diverse undergraduate students.

- **Further recruitment activities at the college, departmental and regional campus levels to reach and retain a more diverse, high-ability prospective student base.** CFAES will enhance its college visit events, target high-ability students for special events, strengthen efforts with regional campuses, improve ties with city schools, and reach out to other Ohio colleges for collaborative teaching opportunities.
- **Further advance the college's welcoming and respectful climate.** CFAES will ensure a welcoming environment for all students. Student surveys have established baseline data. Faculty workshops, collaboration between key student organizations, marketing materials that appropriately reflect diversity, student events and professional development opportunities will ensure that the college enhances its welcoming, inclusive environment.

CFAES Strategic Focus Area 2. Strengthen the college's student-centered focus.

- **Enhance the teaching and learning environment.** Enhance the quality of academic advising by improving access to faculty advisors, and promoting opportunities for greater student–faculty interaction. Place a high priority on hiring faculty with demonstrated excellence in teaching and advising; and recognize and reward departmental, faculty, and staff commitment to excellence in teaching and learning, excellence in student advising and mentoring, involvement in study abroad, and participation in student-centered co-curricular activities. Focus resources to improve teaching and learning spaces. Extend and enhance delivery of and access to graduate and undergraduate distance education.
- **Enhance study abroad opportunities for CFAES students.** Place additional emphasis on providing short-term study abroad opportunities connected to existing CFAES courses. Enhance fundraising efforts to provide additional scholarships for study abroad through increased collaboration with the college Office of Development. Offer a CFAES study abroad program in each of the three Gateway Initiative countries.
- **Provide opportunities and reward success for undergraduate research and scholar development.** Implement “Research Distinction” designation on

diplomas, enhance undergraduate research forum, and instill broad understanding of the interrelationships among economic viability, production efficiency, environmental compatibility, and social responsibility within research efforts. Intensify career development efforts at the college and department levels through increased classroom and extracurricular organization participation. Establish and promote a college Alumni Professional Mentoring Network and enhance the preparedness of CFAES students through career-related advising and connections with employers.

Research and Innovation *(create distinctive and internationally recognized contributions to the advancement of fundamental knowledge and scholarship and to the solutions of the world's most pressing problems)*

CFAES Strategic Focus Area 3. Focus our efforts as a national leader in problem solving through industry, governmental, national, and international collaborations.

- **Create significant impacts by strategically redirecting resources to address state, national, and global research priorities through Signature Areas.** Focus internal competitive program funding including grants, equipment, and graduate research associateships on enhancing extramural competitiveness and on Ohio's current and emerging local and global agbiosciences issues. Reallocate funding to strategic initiatives to leverage resources consistent with Signature Areas. Develop and implement a grant preparation strategy to provide assistance to faculty with large grant preparation, proposal submissions, pre-award and post-award requirements, as well as facilitating team building. Develop and train staff to facilitate this initiative.

CFAES Strategic Focus Area 4. Advance the continuum from Research and Innovation to commercialization through new and continually strengthened partnerships.

- **Facilitate public-private partnerships,** incubate faculty-based start-up companies, and accelerate the "path to market" for Ohio State discoveries.

Outreach and Engagement *(establish mutually beneficial partnerships with the citizens and institutions of Ohio, the nation, and the world so that our communities are actively engaged in the exciting work of The Ohio State University)*

CFAES Strategic Focus Area 5. Focus outreach efforts on issues of highest importance to and with the greatest opportunity for impacting Ohio, national, and global economies, policies, and practice.

- **Work with agricultural producers, industry suppliers, crop advisors, and government agencies to expand the capacity to increase profitable crop yields and livestock production.** Evaluate and adapt research-based production practices for use by Ohio producers, certified crop advisors, agricultural industry suppliers, and agricultural government agencies. Expand and enhance agronomic curriculum presentations to professionals and farm clientele to enable producers to enhance cropland productivity. Enhance the adaptation of production techniques through use of on-farm research, and work directly with producers to evaluate practices that enhance productivity and profitability. Provide advanced diagnostic training for biotic and abiotic pests (invasive species) to professionals and farmer cooperators to enhance food security. Drawing on current research, enhance Ohio's food security and food production by establishing and implementing a local and regional foods initiative and by providing educational instruction to increase profitable crop and livestock production. Expand delivery of direct marketing curricula.
- **Linking with research and industry, educate Ohio citizens, businesses, and institutions regarding opportunities for advanced bioenergy and biobased products and technologies.** OSU Extension and OARDC personnel will develop and deliver educational programs that support increased commercialization and utilization of biobased products and inform and engage stakeholders in the expanding application of bio-based resources to energy. Specialists, educators and commercialization staff will complete sponsored and applied research activities for business firms.
- **Develop faculty and student programs that promote international research, teaching-abroad programs, and service learning.** Enhance the ability of CFAES stakeholders to compete and contribute to the global agricultural economy by strengthening existing programs. Provide agricultural producers and other agribusinesses with the opportunity to host interns from other nations and provide opportunities for agricultural producers and agribusiness representatives to participate in international program activities of CFAES. Engage faculty, staff, students, and stakeholders in global outreach programs designed to improve the rural economy throughout the world.

CFAES Strategic Focus Area 6. Deliver educational programming, based on university research and science, to better lives and families in Ohio and around the world.

- **Enhance human health.** Drawing on current research, enhance human health by expanding and implementing nutrition and physical activity education programs.
- Maintain delivery of **community nutrition programs.** Expand delivery of diabetes education and develop a youth component. Deliver additional modules to increase physical activity of Ohioans by expanding healthy weight

management programming through the addition of programs, such as America on the Move and We Can.

- **Enhance financial well-being.** Expand the delivery of financial well-being programs that impact healthy families.
- **Prepare youth for successful academic achievement.** In concert with our faculty and staff, prepare youth for successful academic achievement related to science, technology, engineering, and math (STEM), leading to careers in environmental and human health professions.
- **Enhance global food security** through research and outreach collaborations that mutually strengthen the capacities of CFAES and partner institutions around the world.

Resource Stewardship *(become the model for an affordable public university recognized for financial sustainability, unsurpassed management of human and physical resources, and operational efficiency and effectiveness)*

CFAES Strategic Focus Area 7. Enhance our high-performance culture and world-class, diverse faculty and staff in order to best achieve our other strategies.

- **Reward high performance at the departmental and faculty level.** Academic units compete for faculty positions by demonstrating sufficient productivity, the ability to cover costs, and showing how the position will advance the college's strategic direction. Additional resources are allocated to academic units that demonstrate superior performance in alignment with the college's strategic plan. Compensatory increases for faculty and staff are based solely on merit. Monitor salaries at benchmark institutions and place a priority on improving faculty salaries compared to our benchmarks.
- **Advance diversity in CFAES.** Support initiatives and programs developed by the college diversity catalyst team. Draw on results from an internal climate survey and use input from Staff Advisory Council and CFAES Faculty Council to initiate strategies for improving the working climate and to encourage a more diverse faculty and staff.
- **Provide professional and leadership development.** Through professional development mini grants, ongoing workshops and lecture series, and a variety of other resources, we will enhance the workplace environment to help people grow and advance.

CFAES Strategic Focus Area 8. By leveraging existing resources and identifying new revenue streams, we will balance uncertain funding cycles in order to support our other focus areas, improve the quality of academic facilities and sites to enhance our ability to conduct needed research and provide improved educational experiences for traditional and non-traditional

(i.e., Extension/adult learners) students.

- **Make on-going enhancements to technology, learning spaces, and research facilities.** The recently built Plant and Animal Agrosecurity Research facility in Wooster will enhance the competitiveness of our world-class research program in plant and food animal diseases and invasive pests. We will invest in IT efforts and staffing and simplify our distributed IT infrastructure in order to enhance faculty efficiencies and capabilities in reaching students. We will pursue the development of a student success center in partnership with university libraries.
- **Enrollment planning, see attachment.**
- **Advancement. See attachment.**

Tracking Our Performance

See attached scorecards.