

Ohio (Ohio State University)

Plan of Work for 2023-2027

Status: Final (Approved 9/29/2022)

Executive Summary Overview

The Ohio State University (OSU) Plan of work encompasses a five-year period beginning on October 1, 2022. The plan represents a joint effort by the two critical components of OSU's College of Food, Agricultural, and Environmental Sciences (CFAES): the Ohio Agricultural Experiment Station (also known as OARDC) and OSU Extension.

CFAES research and Extension programs are conducted in nine academic departments on our campuses in Columbus and Wooster; eleven research stations and field labs; and in all 88 counties throughout the state. Faculty in CFAES engage in research from very basic cellular level responses to applications of disease and pest management as well as developing new technologies and uses for agricultural products and waste.

OSU Extension brings the knowledge of the university directly to all Ohioans, creating opportunities for people to explore how science-based knowledge can improve social, economic, and environmental conditions. There are Extension offices located in each of Ohio's 88 counties delivering programming in 4-H Youth Development, Agriculture and Natural Resources, Community Development, and Family and Consumer Sciences.

While the food and agricultural industry is the largest industry in the Buckeye State, contributing \$124 billion annually to the economy, CFAES research and extension reach beyond agriculture and cover environmental, water quality and societal issues that rural and urban communities face. CFAES recently updated our strategic plan to improve and transform how we meet our mission and Grand Challenges and ensure that we make the greatest impact. The CFAES Values and the Goals listed below guide our work and actions at all levels.

Goal 1: Student/Learner First Philosophy - CFAES teaching reaches across the lifespan from youth served through 4-H programs to students pursuing degrees on campus to 2 million plus lifelong learners in Extension programs.

Goal 2: Innovative Scholarship to Sustain Life - CFAES research projects and extension programs address our critical issues which cover areas in health and wellness, economic vitality, food security and production, environmental quality and sustainability as well as helping people thrive across the lifespan.

Goal 3: Capacity Building of Our People and Our Communities - People are our greatest asset and CFAES strives to build on the success of our people. Changing workforce dynamics, COVID-19 pressures, market competition, economic drivers, an increasing desire for a more balanced approach to how life and work interface, and a need for diversifying our talent are all factors that we must continue to address.

Goal 4: Partner of Choice - CFAES wants to engage our entire community, including both internal and external stakeholders. For example, our Knowledge Exchange team collaborated with our college's

researchers and Extension educators to develop a suite of communications products and data tools. This resource is designed to connect Ohioans to data and research on key topic areas in a way that is easy to access and understand.

Goal 5: Resource Stewardship in a One-College Model - CFAES continues to transform and improve our physical environment across our three campuses. A new science building providing modern research space has been completed on the Wooster campus and progress is being made in the new Controlled Environment Agriculture Research Complex, an interdisciplinary research space at Waterman Farm on the Columbus Campus. Fundraising is also underway for our Multispecies Animal Learning Center, which will also be located on Waterman Farm on the Columbus Campus.

This Plan of Work was developed around these goals as well as targeted critical issues. This joint Plan of Work addresses not only food and agricultural issues but also programs and projects related to human health as well as economic and environmental issues. This plan does not attempt to cover all CFAES and Extension activities, but rather focuses on research and programs in five critical areas:

1. Health and Wellness – This plan of work will explore health related issues including but not limited to mental health awareness and initiatives, health inequity, chronic disease and obesity prevention, community nutrition education, and farm safety.
2. Economic Vitality – Issues related to economic vitality include but are not limited to business retention and expansion, enhancing rural economic opportunities, increasing broadband access in rural areas, food supply chain efficiency, the effects of trade policies on food and ag industries, and the economic benefits of ecosystem management.
3. Food Security and Production – We will explore issues related to mitigating food insecurity through community service and food production education programs and food system sustainability. We will also look at issues of food production including but not limited to digital agriculture programs, climate smart agriculture, improved food animal health and production, crop improvement and resiliency, weed and pest control, and plant breeding and disease resistance studies. Also included in this critical issue are the development of nutrient dense foods, new food preservatives and antimicrobial food packaging and issues related to food safety and foodborne illness reduction.
4. Environmental Quality and Sustainability – Planned programs pertaining to the environment include but are not limited to pesticide safety education programs, and water quality education programs. Research topics cover areas such as soil health and remediation, biological control agents, reduction of pesticide use, sustainable production of polymers and bioplastics, water quality and wastewater treatment, aquatic ecosystem health, air quality and sustainable production of bioproducts and renewable fuels.
5. Thriving Across the Lifespan - Programs under this critical issue are related to positive human development for all ages. A major focus is youth development through 4-H and financial literacy programs. Other programs include community engagement, workforce development, co-parenting and healthy aging.

Merit and Scientific Peer Review Processes

CFAES places a great deal of importance on internal and external reviews, which is emphasized by our dedication to having these reviews conducted routinely at the department and college level. Once a review is completed, those findings for that review are documented, shared, and incorporated into current and future planning, otherwise we risk sliding backward, losing the progress we have made.

All CFAES departments, schools, units, and centers submit annual reports to the college which include information pertaining to undergraduate and graduate student enrollment and faculty productivity related to research, outreach, and engagement. These reports also include an annual plan which is used to assist with resource allocation across the college. This annual review also includes impact statements from each department and unit that highlight the major achievements in research and Extension each year.

All new and renewing CFAES Research projects and Extension programs undergo a review process coordinated locally at the department or unit level, with input, as needed or requested from the experiment station Associate Director or the appropriate Extension program Assistant Director. Department heads and unit leaders are given latitude to employ strategies for evaluation of new plans and projects for their scientific merit and their relevance to programmatic focus. Guidance is provided to unit heads and unit leaders regarding the process by which review may take place. A final revised version of the proposal is reviewed by the Associate Director for Research and/or Extension and approved as appropriate for final review by National Program Leaders at USDA/NIFA. This process ensures that action plans adequately and appropriately address issues that make a positive difference in the lives of stakeholders. On a regular basis, as projects are conducted, investigators and team leaders meet with stakeholders from all sectors to validate the goals, objectives, and on-course progress of the program. This process does not change from year to year.

OSU Extension has recently completed external reviews of the 4-H Youth Development, Community Development, Family and Consumer Sciences, and Agriculture and Natural Resources programs to evaluate the status and effectiveness, and to identify future direction and priorities. Program reviews are a standard practice in youth development programs (Roth & Brooks-Gunn, 2016) and higher education (Halonen & Dunn, 2017). In addition, OSU Extension is currently in the process of conducting a comprehensive content analysis of recent historical documents, including the program reviews, urban Extension plan of action, LifeWorks and Diversity, Equity, and Inclusion Task Force reports, the VP Conversations on the Future of Extension, and 2019 regional listening sessions to identify key strengths, weaknesses, potential programmatic and operational improvements, and to identify key priorities for the future of OSU Extension. Relevant recommendations from these reviews are being implemented.

Stakeholder input: Action Taken to Seek Stakeholder Input

Agriculture is a key industry in the state of Ohio. As such, it is important that our research and Extension programming directly reflects the importance of agriculture to our stakeholders. There is frequent and open communication between key stakeholder leaders and key CFAES leadership. CFAES consistently has wide support and active participation from our stakeholders through listening sessions, key commodity leaders participating in advisory boards, and joint meetings with specific commodities. For example, each month there is a muck crops breakfast, which brings together researchers and farmers in the area to discuss the latest issues. During 2021/2022, we surveyed the specialty crop community both

through formal surveys and in-person meetings to identify key needs of this industry. We will continue to use formal and informal methods to engage our stakeholders and encourage their participation throughout this planning period. Our land-grant identity is defined by translational and responsive research, which means that we are constantly looking for feedback and working to improve the service to our stakeholders.

Advisory committees are also used to identify new stakeholders to engage with and build partnerships. For example, county Extension advisory committee members help in connecting to our traditional stakeholders and expanding the list of county officials that should be contacted. We also use external advisory committees and stakeholder groups to discuss current programs and gather input for future direction and planning. Electronic messaging, social media, webinars, and blogging, as well as interactive group messaging systems have continued to expand rapidly, allowing more stakeholders to participate using communication technologies. We also use media advertising to promote opportunities for our stakeholders to provide input.

In the Fall of 2021, OSU Extension engaged in 20 listening sessions with internal faculty and staff, volunteers, external partners, and local Extension Advisory Councils. Participants were asked to:

1. Identify issues and trends that will impact Extension clientele, their families, organizations, industries, and community in the next 10 years.
2. Think about Extension clientele, their family, organizations, industry and community and identify what was working well.
3. Think about Extension clientele, their family, organizations, industry and community and identify what was NOT working well.
4. Think about the long-term implications of these forces on their lives, organizations, industries, and communities and speculate about where the future could be heading.
5. Imagine the ideal for Ohioans and describe it.

Material from the listening sessions was aggregated, analyzed, and incorporated into new program themes that are currently being incorporated into the strategic alignment plan for OSU Extension.

Stakeholder input: Methods to Identify Individuals and Groups

CFAES will continue to make targeted efforts to communicate with all stakeholder groups. CFAES faculty and staff members, departments and schools, and various research and Extension groups within the institution use stakeholder lists that serve as their foundational contact points. Federal, state, regional, and local governments; agencies; advisory committees; commodity groups; and special interest groups add to the list of stakeholders from whom we seek input in the initial planning and execution phases of our programs.

Opportunities such as the CFAES Farm Science Review (FSR) will continue to engage and garner stakeholder participation, feedback, and support. FSR - Ohio's premiere agricultural event - is one of the largest in the nation of its kind and is dedicated to demonstrating the best agricultural research and management practices with ready-access for our stakeholders. Each year at the FSR there is a Grand Opening Event which brings together both internal and external stakeholders to celebrate our

accomplishments. Events such as this also provide a means to expand our clientele list, knowledge of needs, and feedback on impacts and outputs. These contacts are logged and maintained.

Our researchers and Extension educators are encouraged to reach out to new and underserved target audiences as well as traditional and non-traditional stakeholders. Some activities and events that provide informal opportunities to engage with current and potential stakeholders include participation in County Commissioner Association of Ohio budget information dissemination meetings, informational booths at county fairs, participation in conferences and meetings such as the fair manager conference, multiple opioid summits, town hall meetings, commodity and industry meetings, Family and Children First Councils, local agency coalition meetings, and other community events. In addition, OSU Extension educators in every county gather relevant input from the multiple teams and committees that work to improve local conditions.

Stakeholder input: Methods for Collecting Stakeholder Input

CFAES uses multiple methods to collect stakeholder feedback, including but not limited to in-person and online surveys, interviews, advisory groups, public comment periods, and targeted invitations to various stakeholder groups. We will continue to reach our traditional stakeholders through tried-and-true methods, as well as look for new ways to engage non-traditional groups. Our survey of these groups is typically via open forum interviews or discussions that generate more qualitative data than quantitative. Surveys are routinely sent to our constituents (general and targeted groups) to inform our programming. We also reach out via traditional and social media to advertise public events and stakeholders are often invited to participate on CFAES hosted panels, provide presentations, or offer input on processes and planning.

Advisory committees and task forces are used at various levels within the College. For example, the CFAES Diversity, Equity, and Inclusion (DEI) Action Council was created in 2020 to recommend actions to the college meant to increase DEI. This group is comprised of faculty, staff, and student representatives. Currently, the DEI Action Council is tasked with providing recommendations, identifying issues, developing goals, and engaging in difficult conversations related to diversity, equity, and inclusion.

Our OSU Extension advisory committees have guidelines that dictate how they should be composed. The membership of committees is reviewed during annual onsite audits and self-study diversity reviews are performed to ensure that involvement is sought from the broadest array of constituents feasible.

OSU Extension also performs routine community needs and health assessments to determine priority issues for our stakeholders. These community needs and health assessments are ongoing and performed frequently at the local level, often in conjunction with community partners. In addition, we regularly identify and assess secondary data sources within communities, local community health assessments, and other supplemental data to aid in local decision-making to meet local needs. This year we are adding organizational capacity through the hiring of internal data integrators and partnering with Knowledge Exchange (kx.osu.edu) to easily identify county-level profiles and develop reports to more effectively determine potential under-served audiences and to inform our local plans of work.

Stakeholder input: A Statement of How the Input Will Be Considered

As a land-grant institution, it is important that our stakeholders directly inform decisions that are being made about the future of the college. To maximize the influence of stakeholder feedback, we actively

engage groups at the beginning of the process, thus providing formative reviews. Stakeholders may be internal to the organization, or from outside groups such as industry, other educational institutions, governmental groups, etc.

Stakeholder input is considered widely across the organization. For example, OSU Extension implements several levels of advisory committees, tasked with identifying and prioritizing needs, connecting Extension with potential partners or those who could fill gaps in service, educating stakeholders on OSU Extension's impacts, and advocating for OSU Extension. In addition to state-level, county-level, and program area advisory committees, we also use local and/or topical committees such as the goat committee, research advisory committee, and various others.

Most emerging issues are identified in the field, as issues often manifest themselves in our clients' daily work and social lives. Needs and issues originating from producers, processors, manufacturers, consumers, and special interest groups will continue to inform our programs. This approach influences hiring, shifts in priorities, and resource allocations for both budgeting and strategic planning.

Critical Issues

OSU - Economic Vitality

Initiated on: Nov 26, 2019

State: Ohio

Term Length: Long-term (>5 years)

It is important that all Ohioans have the capacity to pursue and sustain economic well-being. Ohioans should be able to enjoy financial security today, save enough resources for the future, and successfully navigate fiscal challenges and opportunities as they arise. Through money management education, individuals, families, business managers, and community leaders will improve their financial literacy, decision making, and ability to manage resources. Research in this area focuses on understanding how complex economic factors may impact our stakeholders and developing tools that stakeholders can use to improve their operations. This critical issue also includes research and outreach related to local, national, and international policy impacts.

Science Emphasis Area

Bioeconomy, Bioenergy, and Bioproducts, Education and Multicultural Alliances, Environmental Systems, Family & Consumer Sciences, Sustainable Agricultural Production Systems, Youth Development

OSU - Environmental Quality and Sustainability

Initiated on: Nov 26, 2019

State: Ohio

Term Length: Long-term (>5 years)

Ohio State environmental experts educate Ohioans about their individual impact in a global community, while teaching them to be good stewards of the planet. Ohio State research-based programs help people make more informed choices about how they can promote and sustain environmental quality. Programs focused on nutrient management, air quality, forestry, farming practices, water quality, and

landscapes engage and encourage both urban and rural audiences to preserve natural resources for future generations. Our researchers are also constantly looking for new ways to reduce waste and improve the efficiency of sustainably developed products.

Science Emphasis Area

Agroclimate Science, Bioeconomy, Bioenergy, and Bioproducts, Education and Multicultural Alliances, Environmental Systems, Sustainable Agricultural Production Systems, Youth Development

OSU - Food Security and Production

Initiated on: Nov 26, 2019

State: Ohio

Term Length: Long-term (>5 years)

A sustainable food system not only benefits producers and protects consumers, but also ensures a safe food supply while feeding a growing population. Ohio State conducts research and educates producers about best practices that increase yield and profitability. In addition, changing consumer preferences continually influence production practices and the types of products that producers are expected to bring to market. Using science-based information, Ohio State helps consumers, producers, and policy makers become more informed about decisions related to food and the way it is produced, processed, distributed, stored, prepared, and consumed. Engaging citizens in conversations about their food creates a holistic approach to solving food security issues. Additionally, teaching citizens to grow some of their own food can help improve food quality, eliminate food deserts, and increase community food security.

Science Emphasis Area

Education and Multicultural Alliances, Food Safety, Sustainable Agricultural Production Systems, Youth Development

OSU - Health and Wellness

Initiated on: Nov 26, 2019

State: Ohio

Term Length: Long-term (>5 years)

Ohioans should have a positive state of mental and physical health, which includes the prevention of disease, by creating and supporting healthy environments in homes, schools, workplaces, and communities. Ohio State will achieve this goal through a focus on topics that include disease prevention, safety research and education, social and emotional health, and stress reduction. Research and Extension efforts are anticipated to lead to positive behavior change, enabling people to achieve and manage positive personal and community health and wellness outcomes.

Science Emphasis Area

Education and Multicultural Alliances, Family & Consumer Sciences, Food Safety, Human Nutrition, Sustainable Agricultural Production Systems, Youth Development

OSU - Thriving Across the Lifespan

Initiated on: Nov 26, 2019

State: Ohio

Term Length: Long-term (>5 years)

From infancy into later life, Ohio State is committed to helping Ohioans thrive. We develop and strengthen the skills of current and future leaders to address today's most pressing issues. Our Research and Extension mission areas partner to leverage research-based knowledge and best practices to strengthen individuals and the various social structures in which they live. As our society and family structures change, the ways in which we reach and empower clientele will evolve, so it is important that we are finding new ways to reach these audiences—from court-mandated programming to online learning communities. Person-centered engagement also advances the body of research knowledge and individualized instruction practices. Another key focus of our efforts is positive youth development, delivered primarily through 4-H. Our goals are to empower youth, families, and communities to develop and expand characteristics, knowledge, and skills that create a strong foundation for a positive adulthood, including career and college readiness.

Science Emphasis Area

Education and Multicultural Alliances, Family & Consumer Sciences, Youth Development