

# Wyoming (University of Wyoming)

## Plan of Work for 2023-2027

Status: Final (Approved 9/26/2022)

### Executive Summary Overview

Wyoming is the least populated state in the nation with 576,851 people spread out across 97,089 square miles, 99.8 percent of which is rural. Cheyenne, the capital and largest city, has a population of 65,132. The state is divided into 23 counties and the Wind River Indian Reservation. Fifty-three percent of land in Wyoming is owned by the federal or state government. Most of the state's economy is concentrated in three sectors: agriculture, minerals, and tourism. The state is also a major producer of beef, sheep, wool, wind energy, coal, and natural gas. The University of Wyoming is the only university in the state.

The University of Wyoming Extension (UWE) and the Wyoming Agricultural Experiment Station (AES) are housed within the College of Agriculture, Life Sciences and Natural Resources. The vision of the College of Agriculture, Life Sciences and Natural Resources is to support thriving agriculture, natural resources, people, and communities through integrating quality education, innovative research, and impactful engagement. UWE and AES are concerned with finding solutions to contemporary issues affecting Wyoming and the region through high-quality research and creative scholarship, responsive service, and statewide engagement, empowering the people of Wyoming to make choices that enhance their quality of life.

UWE will enhance capacity for success and the resiliency of Wyoming people, communities, organizations, and businesses through educational opportunities. A team-based approach to educational program leadership revolves around three focus areas, which assess the needs of Wyoming residents and communities and then prioritize and develop educational programs around those needs. The three focus areas are: Agricultural and Natural Resources, Community Vitality and Health, and 4-H Youth Development. UWE will continue to engage community members and organizations as partners and collaborators in educational efforts to build capacity in local communities throughout Wyoming.

AES supports fundamental and applied research on agricultural, natural and community resource issues related to the current and future needs of Wyoming, the region, the nation, and the world. Four Research and Extension (R&E) Centers within AES focus on regional research and services of interest to farmers, ranchers, consumers, and communities. AES seeks to increase research engagement by collaborating with diverse research partners with mutual interests; increasing research integrated with other college mission areas; and enhancing research relevance by continuing to update and expand the Wyoming Production Agriculture Research Priorities. Research projects conducted at R&E Centers will continue to have strong educational and community engagement components.

Significantly, a recent University reorganization resulted in the College changing its name to Agriculture, Life Sciences and Natural Resources. A result of this transformation is the integration into the College of the Departments of Botany, Zoology and Physiology, and the Life Sciences Program. We anticipate that this infusion of new faculty and research specialties will open the door to multiple new avenues of research and consequently numerous new capacity research projects. This integration process is still in

its initial stages but we are planning to do trainings during the fall semester to familiarize our new faculty with our capacity programs and the NIFA Reporting System.

## Merit and Scientific Peer Review Processes

No significant changes

## Stakeholder input: Action Taken to Seek Stakeholder Input

Geographically, Extension is divided into five regions. Each region contains three to five counties. Formal stakeholder input for Extension has been conducted in each of these five geographic areas and rotates annually to a different county as well as the Wind River Indian Reservation. A formal on-line statewide needs assessment for UW Extension is currently being developed and will be deployed in fall of 2022 replacing the geographic area stakeholder input sessions. Current plans involve geographic stakeholder input sessions resuming in the fall of 2023.

The Wyoming County Commissioners Association has formed an advisory committee of county commissioners who also include UW Extension Administrators during quarterly meetings of their association.

AES has four R&E centers located across the state. Each center has an active advisory board, and these members are encouraged to participate in at least one meeting each year at the center. Emails are sent to the advisory committee members prior to annual meetings, and the advisory committee chair is encouraged to further contact participants to attend meetings. The College of Agriculture and Natural Resources advisory board meets twice a year and provides feedback and suggestions on AES programs.

## Stakeholder input: Methods to Identify Individuals and Groups

The sampling frame for the UWE on-line needs assessment will consist of all Wyoming households with mailable addresses. A random sample of 11,500 records will be drawn. The sample will be stratified by county, with 500 drawn for each county, anticipating roughly 2,300 total completes.

Extension educators coordinating the geographic stakeholder input session in 2023 and beyond are asked to identify and recruit participants from a diverse audience taking into consideration underserved populations in their county. The selection of participants is based on characteristics that relate to the program focus area group – “Who can provide the greatest insight about needs related to the programming area?”

Research and Extension Center and College of Agriculture and Natural Resources advisory committees are represented by industry leaders, producers, landowners, government officials, and educators from throughout the state. Advisory committee members are nominated by UW Extension, AES, and College administrative personnel and meet one to two times per year.

In addition to these systematic methods of gathering stakeholder input, AES and UW Extension draw on individuals and groups throughout the state to identify relevant issues of critical importance. Some examples include WY Wool Growers, WY Stock Growers, WY Wheat Growers, WY Bean Commission, WY Crop Improvement Association, local and state nutrition councils, County 4-H Leaders Councils, youth

organizations such as Big Brothers, Big Sisters, and school districts. These groups and individuals provide input through both formal and informal discussions with both research and extension personnel.

## Stakeholder input: Methods for Collecting Stakeholder Input

The on-line needs assessment for Extension will include 23 versions of the questionnaire, tailored to each county, so that respondents will be asked to answer questions with their county in mind.

Communication to the respondents will consist of a mixed mode with four mailings to increase the response rate. The first letter will explain the purpose and importance of the questionnaire and will contain the URL address for the questionnaire and a unique access code. Follow-up mailings will be sent to all who have not yet responded with a completed questionnaire. The second mailing will include a reminder letter containing the URL address and access code. The third mailing will include a reminder letter and a paper version of the questionnaire as well as a self-addressed postage-paid return envelope. The final mailing will include a replacement questionnaire, accompanied by another reminder letter and a self-addressed postage-paid envelope.

The geographic stakeholder input sessions for Extension include modified focus groups for the following focus areas (programming areas): Agricultural and Natural Resources, Community Vitality and Health, and 4-H Youth Development. Identical questions and consistent processes are used in each focus group so that the results can be analyzed for similar themes and compiled into a statewide summary which annually identifies emerging issues across Wyoming.

Research and Extension Center and College advisory committees routinely provide input at annual meetings. These meetings help identify station-specific needs as well as contribute to the list of Wyoming Production Agriculture Research Priorities, which are stakeholder driven priorities aimed at enhancing the competitiveness, profitability, and sustainability of Wyoming agricultural systems.

In addition to statewide efforts, AES and Extension employees conduct informal needs assessments on a regular basis to remain current on local emerging needs. This includes key informant interviews with community partners, attending meetings of local agencies/organizations, and targeted outreach to new and often underserved audiences. Employees also review needs assessment data from local and state sources pertinent to their programming areas. Written and on-line surveys with stakeholders are also utilized to identify program needs. Relevant input from professional colleagues in Wyoming and across the nation is also gathered by faculty and UW Extension specialists.

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

After data collection from the on-line statewide needs assessment for Extension has closed, the data from the two platforms (online and scanned from paper submissions) will be exported, merged, and prepared for analysis. The data analysis will highlight the results about priority issues that Extension could address and programs that are important to Wyoming residents. The statistical analysis will include five demographic categories with comparisons done at the state level for age group, highest educational level attained, gender, how long they have lived in Wyoming, and where they live (farm or ranch, rural area that is not a farm or ranch, very small town, small town, or large town). The final report with key findings will be shared with UW administrators, educators, and specialists in Agricultural and Natural Resources, Community Vitality and Health, and 4-H Youth Development program areas as well as local and state level stakeholders.

Focus group results from Extension geographic stakeholder input sessions are compiled and shared with each focus area for prioritization of statewide issues in their programming area: Agricultural and Natural Resources, Community Vitality and Health, and 4-H Youth Development.

Findings from stakeholder input drive the development of educational programs to address the statewide needs. Issues that are cross programmatic in nature are discussed by the respective teams to develop comprehensive efforts to address the need. Issues unique to a particular county are shared with the educators in that county to be addressed locally.

Results from advisory committee and stakeholder meetings results in redirection of research programs, both at R&E centers and across the state. By using this information in setting research priorities, this information is also used to set action and strategic plans for R&E centers and AES. Further, the information in strategic and action plans informs hiring decisions, both on- and off-campus.

## Critical Issues

### **Communities, Families & Youth**

Initiated on: Nov 26, 2019

State: Wyoming

Term Length: Long-term (>5 years)

Wyoming needs strong, dynamic, sustainable communities and voluntary sectors. Such communities depend upon individuals who are willing to accept leadership roles in municipality and/or county government and non-profit organizations to tackle human and community issues, and families who are able to make informed decisions and manage their basic needs to thrive. Furthermore, Wyoming, the nation, and the world need young people who have the skills to be responsible citizens and change agents for the future.

Research and educational programs around key community and economic development interests like leadership, management and policy challenges, workforce development, entrepreneurship, civic engagement/volunteerism, economic valuation and integrated decision-making influence the health of a community at all levels.

The financial vitality of families is often tied to the boom and bust cycle of energy sectors across Wyoming. Effective personal financial management skills are essential to surviving and thriving the economic swings associated with energy production. Wyoming is also a rural agricultural state and effective generational transition of management is crucial to the future of Wyoming agriculture. Research and educational programs can ensure that the next generation has access to the tools, knowledge, and resources needed for viable and progressive Wyoming farms and ranches.

Youth development programs create ways to engage youth within their communities, schools, organizations, peer groups, and families through opportunities that build leadership strengths and develop resiliency. In 4-H, adult volunteers partner to provide educational programs for youth and trained volunteers are essential in supporting positive youth development outcomes. Research around social change also helps prepare youth for technology advances in the future.

Science Emphasis Area

Education and Multicultural Alliances, Family & Consumer Sciences, Sustainable Agricultural Production Systems, Youth Development

## **Community Socio-economic Prosperity**

Initiated on: Nov 26, 2019

State: Wyoming

Term Length: Long-term (>5 years)

Wyoming's economy is vulnerable because of its historical economic dependence on agriculture and extraction industries, coupled with its sparse population. Socio-economic prosperity can be achieved through research and educational programs to strengthen individuals, families, communities, and ranch/farm operations. Impact analysis of natural resource management on public and private lands and alternative land uses; crop diversification, industry development with feasible production options for Wyoming, niche marketing and agricultural trade in the new global market environment; ranch and farm management strategies, innovative planning tools for livestock and crop enterprises, and evaluation of various risk management strategies are examples of research and educational program priorities that will bring economic value and sustainability to Wyoming. Knowledge of disaster resources, development of disaster plans, and effective decision making strategies will also prepare individuals, families and communities to mitigate potential disasters and engage appropriate responses to reduce their vulnerability to disasters.

### **Science Emphasis Area**

Bioeconomy, Bioenergy, and Bioproducts, Environmental Systems, Family & Consumer Sciences, Sustainable Agricultural Production Systems

## **Human Health, Wellness & Nutrition**

Initiated on: Nov 26, 2019

State: Wyoming

Term Length: Long-term (>5 years)

The U.S. Centers for Disease Control and Prevention estimates that "each year 48 million people get sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases" in the United States. Risk factors range from contaminated food products to foodborne illnesses resulting from improper food handling and food production practices. Overweight and obesity rates continue to increase placing Wyoming residents at increased risk of chronic obesity-related health issues. Additionally, environmental factors such as easy access to unhealthy fast foods, limited access to recreational facilities or parks, and few safe or easy ways to walk in a neighborhood increase the risk of being overweight and obesity.

Research in Wyoming will ensure consistent access to a safe and high quality animal and plant based food supply through improved analytical techniques for detecting foodborne illnesses, protection of food from contaminants, developing new food products, etc. Educational programs focusing on food safety will strive to reduce the incidences of foodborne illnesses. USDA/FDA food safety recommendations will be delivered through programs for food service employees as well as individuals and families preserving and preparing food in private homes.

Many health, wellness and nutrition decisions depend not only on the individual but also on social, cultural, economic and environmental factors. Evidence-based policy, systems, and environment (PSE) strategies will be used to increase healthy lifestyle changes and decrease risk of obesity and chronic disease. The goal will be to increase the number of participants who meet the national physical activity guidelines and the national dietary recommendations. Participation in horticulture programs will also encourage residents to be more self-sufficient in food production and live a healthier lifestyle.

#### Science Emphasis Area

Environmental Systems, Family & Consumer Sciences, Food Safety, Human Nutrition, Sustainable Agricultural Production Systems

### **Natural Systems, Food & Fiber Production**

Initiated on: Nov 26, 2019

State: Wyoming

Term Length: Long-term (>5 years)

Increasing climate variability, global population growth, and environmental degradation has placed unprecedented burdens on our natural systems. Wyoming's economy is based heavily on natural resource use (mineral extraction, tourism & recreation, agricultural production), with nearly half its land area publicly-owned and managed by government agencies. A multidisciplinary, systems-based research and educational approach that contributes to thoughtful management of Wyoming's abundant natural resources is essential to understanding the increasing complexity of a rapidly changing world. Basic and applied research from microbes, insects, and wildlife, to people, communities and the environment will be the building blocks to help us understand the challenges facing our communities.

Science-based research and educational programs are critical to improving public policy, reducing conflict, and contributing to economic and ecological sustainability. Wyoming's programs seek to increase knowledge and awareness of sustainable resource use including productive and sustainable agricultural systems, healthy forests and rangelands, water and soil quality, and sustainable land use. With stakeholder input, programs will advance sustainable agriculture and livestock production to improve food security, reduce hunger, increase economic returns, and support thriving rural economies. In addition, these programs will address the needs of urban and small acreage landowners, providing education in sustainable and environmentally sound horticultural practices and maintenance of healthy urban and production forests. Pursuit of technological advances in agricultural production, processing, and distribution will contribute to sustainable production of food, fiber and bioenergy. These programs will aid in the maintenance of Wyoming's natural systems while continuing to contribute to the needs of a growing global population.

#### Science Emphasis Area

Agroclimate Science, Bioeconomy, Bioenergy, and Bioproducts, Environmental Systems, Family & Consumer Sciences, Food Safety, Sustainable Agricultural Production Systems