

University of Wyoming Combined Research and Extension Plan of Work 2021-2025

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I. Plan Overview

1. Executive Summary

The state of Wyoming is over 90% rural, with an economy suited for its sparse population an overwhelming majority of the state economy is concentrated in three sectors: agriculture, energy, and nature tourism. The state is also a major producer of beef, wool, wind power, coal, and uranium. Almost 60% of the land is Federal and State owned land. There are 23 counties and the Wind River Indian Reservation in Wyoming. The state population is 585,501 with Cheyenne, the capital and largest city, at a population of 59,011.

The University of Wyoming Extension (UWE) and the Wyoming Agricultural Experiment Station (AES) are housed within the College of Agriculture and Natural Resources. The vision of the College of Agriculture 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 will involve residents in finding solutions for 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 five State Initiative Teams, which assess the needs of Wyoming residents and communities and then prioritize and develop educational programs around those needs. The five Initiative Teams are: Agriculture and Horticulture, Rangelands, 4-H Youth Development, Nutrition and Food Safety, and Community 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. Research and Extension (R&E) Centers within AES will provide service to farmers, ranchers, consumers, and communities. Research engagement will be increased through diversifying research partners with mutual interests; increasing research that is integrated with other college mission areas; and, enhance research relevance by continuing to update and expand the Wyoming Production Agriculture Research Priorities. Research projects conducted at the R&E Centers will continue to have strong educational components.

2. FTE Estimates

Year	1862 Extension	1862 Research
2021	104.0	40.0
2022	104.0	40.0
2023	104.0	40.0
2024	104.0	40.0
2025	104.0	40.0

II. Merit / Peer Review Process

Extension educators on the University of Wyoming Extended Term and Promotion (ET&P) Track participate in a peer review process regardless of the initiative team in which they are affiliated. Geographically, Wyoming is divided into 5 Extension areas with 3 to 5 counties in each area.

The first level peer review is conducted at the area level and all Extension educators on the Extended Term and Promotion track in that geographic area have the professional responsibility to review the documents submitted by their peers. Reviewers annually receive an orientation and training for their role in the peer review process. Each educator submits his or her vote and written comments as part of the review process.

The second level peer review is a state level review. Each Extension area elects one representative to serve a 3-year term on the state ET&P review committee. Campus specialists also elect one representative to serve a 3-year term on the state ET&P committee. Each member of the state ET&P committee submits his or her vote and written comments also.

Candidates are encouraged to participate in their review to receive positive feedback and constructive suggestions from their peers at both the first and second level review.

Research projects supported with formula funds (Hatch, Multi-State, McIntire-Stennis, Animal Health) must be approved projects. The project proposal is transmitted to the Wyoming Agricultural Experiment Station and the director appoints a minimum of two scientific reviewers who are knowledgeable in the field to review the proposal. After a proposal is revised based on the above review, it is remitted to the experiment station for review by the director. The Wyoming Agricultural Experiment Station also administers an internal competitive grants program using a portion of its federal capacity dollars. In addition to a minimum of two external ad hoc reviews from scientists who are experts in the field, proposals are reviewed by a ten to twelve member university-wide grant panel. The panel submits recommendations for project funding to the director. Project proposals require a defined plan for outreach as part of the review process.

III. Stakeholder Input

1. Actions to Seek

Geographically, Extension is divided into 5 regions. Each region contains three to five counties. Formal stakeholder input for Extension is conducted in each of these five geographic areas and rotates annually to a different county. An initial personal contact is made with potential participants to describe the purpose of stakeholder input and to invite the individual to join a specific program area focus group. Second, a formal invitation is sent to the potential participants along with the questions that will guide each focus group. Finally, each potential participant receives a reminder phone call/e-mail a few days before the stakeholder input session. Lunch and a small incentive are provided for participants.

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.

2. Methods to Identify

Educators coordinating the stakeholder input session for their county are asked to thoughtfully 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 initiative team programming area of the focus group - "Who can provide the greatest insight about needs related to the programming area?"

Research and Extension Center Advisory committees are represented by extension educators, industry leaders, and landowners (government and private) in all counties that they service. Advisory committee members are nominated by UW Extension, AES, and administrative personnel and meet one to two times per year.

In addition to these systematic methods of gathering stakeholder input, AES and UW Extension utilize individual and groups throughout the state to identify relevant issues of critical importance. Just a few examples include: Commodity groups--such as Wyoming Wool Growers, Stock Growers, Wyoming Wheat Growers, Wyoming Crop Improvement Association, local and state nutrition 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.

3. Methods to Collect

The statewide stakeholder input sessions for Extension include modified focus groups for the following initiative teams

(programming areas): Agriculture and Horticulture, Range, Community Development, Nutrition and Food Safety, and 4-H Youth Development. Identical questions and a 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. 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.

Research and Extension Center 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 the statewide efforts, AES and Extension employees conduct informal needs assessment on a regular basis to remain current of 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.

4. How Considered

Focus group results from Extension Stakeholder Input sessions are compiled and shared with each initiative team for prioritization of statewide issues in their programming area: Agriculture and Horticulture, Range, Community Development, Nutrition and Food Safety, and 4-H Youth Development. Consideration is given to the development of educational programs to address the statewide needs. Issues that are cross programmatic in nature are discussed by the respective initiative teams to develop comprehensive efforts to address the need. Issues unique to a particular county – that do not arise in other focus groups – 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 as a whole. Further, the information in strategic and action plans informs hiring decisions, both on- and off-campus.

IV. Critical Issues

1 Communities, Families & Youth

Description:

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.

Term: Long

Science Emphasis Areas

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

2 Community Socio-economic Prosperity

Description:

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.

Term: Long

Science Emphasis Areas

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

3 Human Health, Wellness & Nutrition

Description:

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.

Term: Long

Science Emphasis Areas

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

4 Natural Systems, Food & Fiber Production

Description:

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.

Term: Long

Science Emphasis Areas

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