



# Wyoming Agricultural Experiment Station Hatch Project Proposal Guidelines

The purpose of Hatch funding is to conduct agricultural research programs at State Agricultural Experiment Stations in the 50 States, the District of Columbia, and the Insular Areas. Hatch activities are broad and includes research on all aspects of agriculture, including soil and water conservation and use; plant and animal production, protection, and health; processing, distribution, safety, marketing, and utilization of food and agricultural products; forestry, including range management and range products; multiple use of forest rangelands, and urban forestry; aquaculture; home economics; human nutrition; rural and community development as it relates to agriculture; sustainable agriculture; and molecular biology and biotechnology inasmuch as work can contribute to agricultural advancements. Research may be conducted on problems of local, state, regional, or national concern.

Prior to writing your proposal, it is advisable that you discuss your project with the AES Director who can provide guidance and general suggestions.

## Proposal Guidelines

**SECTION HEADINGS** – Include the following sections:

- 1. Primary Critical Issue** – Indicate which one (1) of the following critical issues your project addresses. Detailed descriptions of critical issues can be found at the end of this document.
  - Communities, Families & Youth
  - Community Socio-economic Prosperity
  - Human Health, Wellness & Nutrition
  - Natural Systems, Food & Fiber Production
- 2. Title** – The title, as clearly as possible, should reflect the objectives and scope of the project.
- 3. Project Personnel** – Include names, departments/affiliations, and roles of key project personnel.

Name	Dept./Affiliation	Role
Firstname Lastname	UW Plant Sciences	PI
Firstname Lastname	UW Botany	Co-PI
Firstname Lastname	UW Plant Sciences	Lab Technician

- 4. Non-technical Summary** – In lay terms, briefly describe the following (**<10,000 characters**):
  - the issue and why it is important,
  - your goal and objectives,
  - the target audiences and how they will benefit, and
  - how your activities lead to the outcomes described in the goal statement or objectives.

**5. Methodology (<10,000 characters)** – Describe the ways in which the project will be conducted, with emphasis on the general scientific methods and any unique aspects or significant departures from usual methods.

**6. Integrated Activities** – Does this project integrate research and extension activities? Integrated activities are jointly planned, funded, and interwoven between research and extension to solve problems (NIFA Policy Guide, p. 206). See the system guide for acceptable activities. If yes, please provide a brief description of what makes this an integrated activity (1-2 sentences).

**7. Research Effort Categories (must total 100%):**

- Basic \_\_\_\_\_%
- Applied \_\_\_\_\_%
- Developmental \_\_\_\_\_%

**8. Animal Health Percentage:** Enter the percentage of animal health research for this project or "0" for none.

- \_\_\_\_\_%

**9. Classifications (Please see Manual of Classification for assistance). Please note, you can enter multiple lines and variations of KA, SOI and FOS). Must total 100%.**

- Knowledge Area:
- Subject of Investigation:
- Field of Science:
- Percentage:

**10. Are Human subjects involved?** If required, approval/exemption must be received before the project can be submitted to NIFA.

- If “No”, proceed to next question
- If “Yes”, is the project exempt from Federal regulations?
  - i. If "No", what is the IRB approval date
  - ii. If “Yes”, what is the exemption number (1-6)

**11. Are Vertebrate Animals Used?**

- If “Yes”, what is the IACUC Approval date

**SUGGESTED PEER REVIEWERS** – Your project will be sent for external peer review, and you will be asked to address peer reviewer comments. To speed up this process we ask you to provide a list of five suggested reviewers, including contact information with your submission.

Submit your completed proposal to [aes@uwyo.edu](mailto:aes@uwyo.edu). If you have any questions, please contact the Wyoming Agricultural Experiment Station at [aes@uwyo.edu](mailto:aes@uwyo.edu) or 307-766-4223.

## USDA NIFA Approved Critical Issues for University of Wyoming

### 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.

#### **Science Emphasis Areas:**

- Education
- 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.

#### **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.

#### **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.

##### **Science Emphasis Areas**

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