

West Virginia (West Virginia University)

Plan of Work for 2023-2027

Status: Final (Approved 9/7/2022)

Executive Summary Overview

This report represents the combined five-year plan of work (2020 - 2024) for two entities: the West Virginia Agricultural and Forestry Experiment Station (WVAFES) and West Virginia University Extension (WVU-ES). In past years these two institutions submitted a combined Plan of Work in conjunction with our 1890 Land Grant partner West Virginia State University (including both their Experiment Station and Extension). We have worked to develop six statewide Critical Issues to address in a span of five years (2020-2024). Recent stakeholder inputs aligned with our existing Critical Issues. Therefore, we will continue to use the six Critical Issues as a guide for all program/project development and implementation. Our six Critical Issues are: Food Access, Security and Safety/Sustainable Agriculture, Climate Change and Natural Resources Management, Health Disparities, Community Revitalization, Strengthening Youth and Families, and Nutrition and Obesity Prevention. The WVAFES supports approximately 46 FTE research faculty positions distributed across the 110 individual scientist positions. The Station also supports approximately 20 clerical and farm/forest worker positions and 81 professional support positions (mostly graduate students). The Experiment Station operates seven farms and two forests which support faculty research. Four of the farms (Stewartstown Road Farm, Horticulture/Organic Farm, Agronomy Farm in Morgantown and JW Ruby Farm in Reedsville) and the University Forest are sufficiently close to the University campus to be used extensively to support academic programs in addition to research. Outlying farms include the Reymann Memorial Farm (beef, sheep, agronomic crops, and bull testing station) and Kearneysville Tree Fruit Research Farm (primarily apples and peaches) in northeastern West Virginia; the Willow Bend Farm in the southeast (pasture raised and finished beef); and the Tygart Valley Forest (mostly oak regeneration and disease control research). Three centers and one organizational unit exist all or in part within the College to help focus and direct our efforts on economic development, natural resources and the environment. They also contribute to our ability to leverage Hatch and McIntire-Stennis capacity funding by attracting external competitive grants and other external sources of funding. The three centers are the Natural Resource Analysis Center (NRAC), the Appalachian Hardwoods Center (AHC) and the Institute for Water Security and Science (IWSS). The organizational unit is the West Virginia Cooperative Fish and Wildlife Unit. The regular WVU Extension workforce of 396 county agents, state specialists, and staff is augmented by an additional 1,200 seasonal employees who help deliver our large, statewide summer learning programs. More than 9,000 well-trained volunteers also help design, deliver, evaluate, and improve Extension programs each year. Employees of numerous longtime program partners, such as West Virginia Department of Agriculture, county school professionals, West Virginia Department of Health and Human Resources, and WVU Health Sciences, help in this regard as well. Many identify with WVU Extension through our educational programs. Some of the most recognized programs are 4-H, Dining with Diabetes, Extension Master Gardeners, Firefighter Training, Community Educational Outreach Service (CEOS), Family Nutrition Program, Energy Express, Soil Testing, Workplace Safety, Pesticide Recertification Training, Character Education, Beef Quality Assurance, Farm Management, Forest

Stewardship, and Community Leadership Development. The University's strategic plan specifically mentions the work and contribution of the Extension Service, "Expand outreach efforts to connect the campuses to citizens and communities throughout the state. Provide resources and information to equip West Virginia University Extension agents, and other personnel engaged in outreach and care, for a broader role as ambassadors for the institution." The West Virginia Agriculture and Forestry Experiment Station is part of the Davis College of Agriculture, Natural Resources and Design. While the West Virginia Cooperative Extension Service is a separate administrative unit and not part of the College, research and extension are integrated through joint appointments (9 Extension faculty have partial appointments with the Davis College and 5 Davis College faculty have partial Extension appointments), through coordination of activities and planning at the deans, directors and associate-directors levels, through integrated research, extension and education projects and programs funded by Hatch, Smith-Lever and McIntire-Stennis formula funds and through competitive funding from NIFA and other sources. As in the past, research programs of the WV Agricultural and Forestry Experiment Station are coordinated with and supported by educational and outreach programs of West Virginia University Extension.

Merit and Scientific Peer Review Processes

All WVUES specialists and county agents are appointed as faculty at West Virginia University. As such they undergo the same faculty reviews as other university faculty and are recognized, rewarded, and promoted under the same protocol. Each year, every Extension faculty member submits an individual POW to program unit directors for approval. The plans are then evaluated based on how they address WVU Extension critical issues, meet the needs of West Virginia citizens and produce measurable outcomes. In December of each year, every Extension faculty member submits a faculty file which contains productivity charts, accomplishment narratives, and supporting documentation related to teaching, research, and service. Depending on years of service and whether the faculty member is applying for promotion, the files are evaluated by program unit peers, program unit director, an Extension-wide committee, Extension Dean and Director, and the WVU Provost (for decision years only).

The scientific peer review process at WVUES includes blind, external reviews of new educational materials such as curricula, white papers, fact sheets and bulletins. The process begins when an Extension faculty member creates a new educational document that is intended to be used across the state. The faculty member submits the document to the program unit director or designee who recruits external reviewers with subject-matter expertise who are willing to review the document(s) and provide feedback. The feedback goes to program director and the faculty member. Together they decide what and if any revisions are necessary before the document is disseminated. We will continue with this process for the period covered by this plan of work. Journal articles and grant applications will continue to be reviewed using methods established by the publisher or the granting agency.

The peer review process for the WVAFES includes review of Station Hatch projects by at least three faculty with knowledge in the field, review by the unit Director and review by the Experiment Station Director, prior to submission to NIFA. Multi-state Hatch projects are reviewed by the relevant regional association with input from at least three external reviewers, a review by the Multi-state Activities Committee and ultimately by the full board of the relevant regional association. Competitive grant proposals are submitted to the agency in coordination with the WVU Office of Sponsored Programs and undergo the prescribed agency review process. The overwhelming majority of the outputs of the WVAFES are peer-reviewed journal articles that are peer reviewed by the prescribed method of the

journal. In some limited cases other juried scholarly activity is prepared and appropriate peer evaluation is solicited to evaluate the quality of the work.

Stakeholder input: Action Taken to Seek Stakeholder Input

Stakeholder input is valued by WVUES and WVAFES; each organization includes communications professionals that coordinate a variety of promotional activities and social media posts to increase non-traditional stakeholder awareness

and make university resources more available to the public. These activities will continue through the 2020-2024 plan of

work. Promotional activities will include WVU Day at the Legislature, activities and the WVU Building at the State Fair of

West Virginia, and Kiddie Days at the Farm. Administrators, program directors, and division directors will continue to meet

with traditional stakeholder groups such as Farm Bureau, 4-H volunteers, 4-H Teen Council, Master

Gardeners, Community Education Outreach Service (CEOS) members, the West Virginia Agriculture and Forestry Hall of

Fame, and other statewide organizations to listen to their concerns and their input into priority programming.

Stakeholder input: Methods to Identify Individuals and Groups

WVU Extension and WVU Agricultural and Forestry Experiment Station will continue to identify stakeholders through the purposive sampling of individuals who have participated in our programs, those who have not participated in our programs, community-based organizations, key decision makers, Extension volunteers, service committees, and Extension employees. This method of identifying individuals, groups, and organizations is replicated in each WV county to ensure we have an overview of statewide stakeholders' input. County and state faculty will continue to enhance their engagement activities by becoming active members in industry and trade associations as well as serving on community development action teams. We believe that active participation in community-based engagement opportunities helps us to strengthen our connections to stakeholders and through this, we become aware of local and statewide issues that could inform our programming.

Stakeholder input: Methods for Collecting Stakeholder Input

WVU Extension and WVU Agricultural and Forestry Experiment Station will continue to assess the needs of West Virginians by partnering with state agencies, local agencies, and other public institutions in the state, and non-profit organizations in WV grassroots. Faculty will continue to collaborate across different disciplines to design programs/projects that will take an holistic approach towards improving the lives and livelihoods of West Virginians. Method for collecting stakeholder inputs will continue to include county-specific focus group sessions, statewide needs assessment survey, and one-on-one meetings/consultations with past program/project beneficiaries. This is to ensure that WVUE and WVUAFES continue to employ a stakeholder-centered program/project design. We will also continue to

draw on secondary stakeholder inputs by monitoring data trends published by agencies such as the WV Department of Agriculture, WV Department of Education, Center for Disease and Prevention Control, WV Department of Health and Human Resources among others. In March 2022, we completed a needs assessment survey of key decisionmakers (senators, delegates, county officials, etc) across the state and the results reaffirmed our current critical issues.

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

Stakeholder centered approach to program and project design is at the core of WVU Extension and WVUAFES core operations. We will continue to use stakeholder input data to tease out program/project gaps and improvements. Information collected from stakeholders will also be used to evaluate where we are in addressing our critical issues and where we want to be by the end of this current POW implementation. We will remain flexible because we acknowledge that emerging issues in a specific issue area may lead to redirection of program resources or eliminate the need for a specific project within the program. Input from stakeholders and data trends on health and well-being, education, and prosperity, as they affect West Virginians, will be used to allocate resources to areas of greatest need and impact.

Critical Issues

Climate Change and Natural Resources Management

Initiated on: Nov 26, 2019

State: West Virginia

Term Length: Long-term (>5 years)

The Appalachian Region has unique threats and opportunities as it relates to environmental, water, energy and natural resources management. On-going activities of the extractive industries and legacy of point and nonpoint sources of pollution continue to be major environmental and ecological issues affecting West Virginia's natural resources and the wellbeing of our communities. Looking forward, West Virginia seeks to develop sustainable alternative energy sources, address legacy problems, and to deal with fallout from climate change. Protection and restoration of environmental quality and ecosystem services and the development of economically effective and environmentally sound and sustainable resource management practices while effectively mitigating the effects of climate change is essential for the prosperity of the state.

Science Emphasis Area

Agroclimate Science, Environmental Systems, Family & Consumer Sciences

Climate Change and Natural Resources Management

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State: West Virginia

Term Length: Long-term (>5 years)

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affecting West Virginia's natural resources, its land management, and the wellbeing of its communities. Looking forward, West Virginia seeks to develop sustainable alternative energy sources, address legacy problems, and to deal with fallout from climate change. Protection and restoration of environmental quality and ecosystem services and the development of economically effective and environmentally sound and sustainable resource management practices, while effectively mitigating the effects of climate change, are essential steps for the prosperity of the state.

Science Emphasis Area

Agroclimate Science, Bioeconomy, Bioenergy, and Bioproducts, Environmental Systems

Community Revitalization

Initiated on: Nov 26, 2019

State: West Virginia

Term Length: Long-term (>5 years)

Many communities in WV suffer from economic hardship brought on by the exit of extractive (e.g. coal) and other industries. These communities lose a sense of purpose and identity making it difficult to attract new businesses to empty store fronts. Organization and revitalization efforts are needed to restore a sense of community to these locations and attract new businesses for a future of economic prosperity.

Science Emphasis Area

Family & Consumer Sciences, Sustainable Agricultural Production Systems, Youth Development

Community Revitalization

Initiated on: Nov 26, 2019

State: West Virginia

Term Length: Long-term (>5 years)

Many communities in WV continue suffering from economic hardship brought on by the decline of its extractive (e.g. coal), chemical and other industries. The lack of economic opportunities in these communities result in them losing their sense of purpose and identity, making it more difficult to attract new businesses to empty storefronts. Moreover, these communities also have a difficult time to attract new residents or gradually lose their existing ones. Organization and revitalization efforts are needed to restore a sense of community to these locations and attract new businesses and residents for a future of economic prosperity.

Science Emphasis Area

Education and Multicultural Alliances

Food Access, Security and Safety / Sustainable Agriculture

Initiated on: Nov 26, 2019

State: West Virginia

Term Length: Long-term (>5 years)

Both, in urban and rural areas in West Virginia, access to healthy and safe fresh food is a challenge for vulnerable populations. Increased sustainable production of agricultural products and food, implementation of proper processing/handling of food and food products, as well as improved access to quality fresh food and food products are key issues to increase food security in West Virginia.

Science Emphasis Area

Environmental Systems, Food Safety, Sustainable Agricultural Production Systems

Food Access, Security and Safety/Sustainable Agriculture

Initiated on: Nov 26, 2019

State: West Virginia

Term Length: Long-term (>5 years)

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Science Emphasis Area

Family & Consumer Sciences, Food Safety, Sustainable Agricultural Production Systems

Health Disparities

Initiated on: Nov 26, 2019

State: West Virginia

Term Length: Long-term (>5 years)

Many people living in both rural and urban communities in WV experience disparities related to physical and behavioral health and overall well-being. These disparities are often a result of poverty, lack of gainful employment, and lack of access to resources. The opioid epidemic compounds these issues further. In WV the diabetes mortality rate is 53% higher than the rest of the nation, the average adult feels mentally unhealthy 31% more often than the average American, and the years of potential life lost is 47% higher than the rest of the country.

Science Emphasis Area

Family & Consumer Sciences, Human Nutrition, Youth Development

Health Disparities

Initiated on: Nov 26, 2019

State: West Virginia

Term Length: Long-term (>5 years)

People living in both rural and urban communities in WV experience disparities related to physical and behavioral health which has a significant impact on their overall well-being. These health disparities are often a result of poverty, lack of gainful employment, and poor or no access to basic resources. Furthermore, the current opioid epidemic, affecting families in urban and rural communities, compounds these problems. National statistics reflect that in West Virginia the diabetes mortality

rate is 53% higher than the rest of the nation, the average adult feels mentally unhealthy 31% more often than the average American, and the years of potential life lost is 47% higher than the rest of the country. Focused research and outreach programming can assist in tackling health disparities and improving the well-being of WV communities.

Science Emphasis Area

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

Innovation and Entrepreneurship

Initiated on: Nov 26, 2019

State: West Virginia

Term Length: Long-term (>5 years)

53% of working aged adults in West Virginia are either unemployed or have stopped pursuing viable employment opportunities. Some of the unemployment can be addressed through boosting economic viability in West Virginia through support of a strong innovation economy. Training and business start up assistance is needed to help current or aspiring entrepreneurs reach their goal of gainful employment through new business creation. A robust innovation economy requires the availability of a workforce skilled in the STEM disciplines. Many West Virginia youth come from economically and academically disadvantaged areas which translate into difficult entry in and sustainability of matriculation through STEM curricula.

Science Emphasis Area

Education and Multicultural Alliances, Youth Development

Nutrition and Obesity Prevention

Initiated on: Nov 26, 2019

State: West Virginia

Term Length: Long-term (>5 years)

In 2017, West Virginia led the nation in the rate of adult obesity (38%) and obesity-related chronic diseases such as diabetes (15%) and hypertension (44%). WVa. was lowest among the states for percentages of adults that met recommendations for servings of fruit (7.3%) and vegetables (5.8%) and among the highest for sugar-sweetened beverage consumption. These dietary patterns and lack of physical activity contribute to obesity and chronic disease which contributes to days of lost productivity and poor quality of life. Nutrition and obesity prevention are important for a healthy workforce and for the state's economic development.

Science Emphasis Area

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

Strengthening Youth and Families

Initiated on: Nov 26, 2019

State: West Virginia

Term Length: Long-term (>5 years)

Poverty and the opioid epidemic are two issues which are changing the dynamic of families in WV and negatively impacting the future of our youth. The changing family structure resulting in more non-parental relatives raising children in WV results in mental and financial stress for the for the individuals impacted. Youth living in low socioeconomic areas are academically disadvantaged and at increased risk of behavioral health issues. These issues are especially pronounced for youth impacted by the opioid (and other drugs) epidemic who tend to experience frequent traumatic events.

Science Emphasis Area

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

Strengthening Youth and Families

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State: West Virginia

Term Length: Long-term (>5 years)

Poverty and the opioid epidemic are two critical issues which are changing the dynamic of families in WV and negatively impacting the future of its youth. The changing family structure resulting in more non-parental relatives raising children in WV results in mental and financial stress for those individuals impacted. Youth living in low socioeconomic areas are academically disadvantaged and at increased risk of behavioral health issues. These issues are especially pronounced for youth impacted by the opioid (and other drugs) epidemic who tend to experience frequent traumatic events.

Science Emphasis Area

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