

StateGrown

An Agricultural Research & Extension Magazine



Winter 2024



WEST VIRGINIA STATE
UNIVERSITY

1891

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On the Cover: Community Leaders and WVSU Extension Working Together To Improve Public Health and Wellbeing (P. 20)

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Message from the Administration



Welcome to the third edition of StateGrown magazine! This is an exciting time for West Virginia State University (WVSU) and for the programs we deliver to the citizens of West Virginia through our land-grant and extension programs.

In the pages that follow you will read about work that is underway at WVSU by our research scientists who are working on a new process to better protect tomato crops. You will also learn about cutting edge research that is taking place utilizing watermelon rinds in the fight against cancer.

You will also learn about ways that our extension educators are engaging with the youth of the Mountain State through innovate educational offerings like our Yellow Jacket Cyber Defenders camp which aims to provide exposure to the exciting and rapidly evolving field of cybersecurity and inspire young people to pursue careers in this area. Another educational offering, a water quality camp, inspired high school students to learn more about the local water supply in their areas.

WVSU Extension is also planning for the future with a series of listening sessions throughout West Virginia through 2027 that will identify critical issues impacting impoverished communities, low- income families, limited-resource small farms and at-risk youth. Extension will also collaborate with community leaders to analyze and prioritize issues to develop innovative educational programs to address the targeted audience's needs.

And the university is planning for the future needs of the agricultural workforce in West Virginia through the creation of a new School of Agriculture, Food and Natural Resources. WVSU currently holds the unfortunate designation as the only land-grant school in the nation without a school of agriculture. The creation of a school of agriculture will reinforce the principles on which the university was founded in 1891 under the Second Morrill Act to provide "instruction in agriculture,

the mechanical arts, English language and the various branches of mathematical, physical, natural and economic science: to the black citizens of the state where these students had no access to other higher education institutions."

By fully embracing our heritage as a land-grant institution, WVSU will be at the forefront in helping to nurture and grow the agriculture and natural resources workforce of tomorrow. We hope you enjoy this latest edition of StateGrown and take time to learn more about our recent accomplishments in extension and research at WVSU, and we encourage you to stay tuned for what's ahead.

Go State!

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United States
Department of
Agriculture

National Institute
of Food and
Agriculture

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BUILDING A SUSTAINABLE FUTURE

INITIATIVE FOR A NEW SCHOOL OF AGRICULTURE, FOOD AND NATURAL RESOURCES

West Virginia State University (WVSU) is taking a significant step toward addressing global food and environmental sustainability challenges by establishing a new School of Agriculture, Food and Natural Resources. The planned educational center will equip students with practical knowledge and hands-on experience in sustainable agriculture, food science and natural resources management.

The fundamental goal of the school is to develop climate-smart and maintainable agriculture practices that can significantly enhance productivity while simultaneously reducing environmental impact. The school also aims to promote innovative solutions to food safety and security challenges, including developing new technologies and methodologies that can help produce safe and nutritious food.

In addition, the school will also focus on managing natural resources effectively while alleviating the impacts of climate change; this includes exploring new ways to conserve and promote sustainable use of resources and protect biodiversity. West Virginia's Senior United States Senator Joe Manchin and WVSU President Ericke S. Cage hosted a roundtable discussion in August 2023 on the need for an agriculture school at the university.

"West Virginia has a tremendous climate for agriculture," Manchin said. "We should be doing more and more of it, and we can, but you have to have people that have that education and understanding of what we're doing, why we're doing it and how we can do it better."

Establishing the School of Agriculture, Food and Natural Resources is an ambitious initiative to ensure that the next generation of agricultural professionals is well-equipped to address agricultural challenges in West Virginia.



Left: Tractor at Lakin State Farm, West Columbia, WV
Top Right: Senator Joe Manchin and President Ericke S. Cage
Bottom Right: Field at Lakin State Farm, West Columbia, WV



WVSU EXTENSION SERVICE

LISTENING SESSIONS HELP WVSU EMPOWER APPALACHIA'S COMMUNITIES

To effectively meet the needs of West Virginians, West Virginia State University (WVSU) Extension has identified four service regions consisting of various counties. In 2024, the Extension Service will begin hosting a series of listening sessions to identify critical issues impacting impoverished communities, low-income families, limited-resource small farms and at-risk youth. It will also collaborate with community leaders to analyze and prioritize issues to develop innovative educational programs to address the targeted audience's needs.

The listening sessions schedule will be implemented as follows:

Clay, McDowell, Wyoming and Lincoln counties - Spring 2024; Fayette, Putnam, Wayne and Boone counties - Spring 2025; Cabell, Logan, Mercer and Summers counties - Spring 2026; and Mingo, Greenbrier, Monroe and Nicholas counties - Spring 2027.

"The mission of the 1890 Cooperative Extension System and WVSU Extension Service is to assist diverse audiences, with emphasis on those who have limited social and economic resources, to improve the quality of life and vitality of individuals and communities through transformational engagement and outreach education," said Dr. Johnnie Westbrook, associate dean for WVSU Extension. "The 1890 Extension programs focus on five core themes: Nutrition, Health and Wellness of Individuals, Families and Communities; Economic Prosperity and Well-Being of Rural and Urban Underserved Communities; Community, Youth and Family Resilience and Sustainability; Environment,

Natural Resources and Renewable Energy; and Agricultural Profitability and Sustainability of Small-Scale Farms."

WVSU Extension also plans to create an advisory council consisting of residents from the service regions to provide valuable input. Furthermore, it will hire additional Extension educators to implement educational programs related to agriculture, community development, family and consumer sciences and 4-H STEM youth development throughout regional areas.

"Cooperative Extension, as a national system, stays on the cutting edge of bringing practical solutions to the challenges faced by individuals and communities," said Dr. Ami Smith, vice president and dean and director for Agricultural Research & Extension. "The future of Extension will involve climate-smart food, agricultural and forestry practices, rebuilding economies and focusing on racial equity and justice. WVSU Extension looks forward to continuing to serve the people of West Virginia as we work together to improve our state and region."

Recognizing the importance of Extension services when addressing the challenges facing residents is crucial. With its rich history and continued commitment to excellence, WVSU Extension is a prime example of what can be accomplished when institutions prioritize community service and education.

Left: Johnnie Westbrook, Ph.D., Associate Dean for Extension

RIPE ON THE VINE

TOMATO RESEARCH COLLABORATION ENSURES DISEASE-RESISTANT CROPS FOR AGRICULTURALISTS

Anthracnose is a fungal disease that affects many plant species, including tomatoes. It can cause significant crop losses and decrease the yield and quality of the fruit. However, a team of West Virginia State University researchers and collaborators have recently made a significant breakthrough in developing anthracnose-resistant tomato cultivars.

Drs. Umesh Reddy and Padma Nimmakayala teamed up with Dr. Vagner Benedetto, professor of plant genetics at West Virginia University and USDA ARS Geneticist Dr. John Stommel to identify 20 genomic regions linked to the disease, which could lead to creating more sustainable and safe tomato farming practices.

These findings are a significant achievement, as using these markers could significantly reduce crop losses and decrease the need for fungicides, which could help make tomato farming practices more sustainable and environmentally friendly. Additionally, these markers hold substantial promise for marker-assisted selection in tomato breeding programs, which could lead to more disease-resistant tomato cultivars.

To achieve this, they created a mapping population and analyzed a range of tomato varieties to identify genetic markers that confer resistance to *anthracnose*.

They found 24 potential SNP markers for disease resistance and validated them using various molecular techniques. This research could significantly reduce crop losses, decrease the need for fungicides and contribute to more sustainable and safe farming practices.

In addition, the discovery of these genes also opens up possibilities for genome editing techniques that could engineer *anthracnose* resistance in tomatoes. For example, researchers could precisely edit the tomato genome to introduce or enhance disease resistance, ultimately leading to new tomato varieties more resilient to *anthracnose* and other diseases, significantly benefiting farmers and consumers alike.



Top Right: Umesh Reddy, Ph.D., Subramanyam Chinreddy Ph.D.
Bottom Right: Test Plates





Check out what's happening at the EDC!



FOCUS ON COMMUNITY

CREATING OPPORTUNITIES FOR OUR COMMUNITIES

West Virginia State University (WVSU) Extension Service's Community and Economic Development (CED) area is a hub of innovative thinking and creative problem-solving. Led by CED Program Leader Adam Hodges, the team is committed to creating programs and activities tailored to meet each community's needs. Additionally, CED has collaborated with multiple organizations to achieve successful outcomes.

One of CED's top initiatives is the Economic Development Center (EDC), located in Charleston. The EDC offers rental office spaces and memberships that provide clients access to state-of-the-art facilities, including sound and video production studios. The Opening Soon program, which helps aspiring entrepreneurs develop their business concepts and plans, is a signature program of the EDC. The program has seen a 25% increase in participant enrollment over the last year, with over 60% of program graduates launching their businesses.

Kaysha Jackson, the director of the EDC, has adopted a ground-up approach to workforce development. Her innovative and impactful strategy focuses on nurturing soft skills in middle school students to guide them through high school graduation and entry into the workforce. This approach equips individuals with the skills, attitudes and behaviors that will enable them to thrive in their careers and life. Jackson's efforts address the community's immediate needs and nurture the next generation of skilled professionals.

Christine Kinder, a CED Extension educator, has focused on community engagement through public art, beautification and public events. In her new role with Coal Heritage, she leads the development of the West Virginia Coalfields Trail Town program as a fellow of the Extension Foundation. The program serves as a community development platform to engage communities across Southern West Virginia.

Robby Moore, another CED Extension educator, recently signed an agreement with the Tamarack Foundation for the Arts to establish an MOU that allowed them to hire a community arts and business development educator. The Tamarack Foundation's Creative Entrepreneur Fellowship program awards up to five fellowships to qualified and talented artists working in traditional and fine craft or visual arts. The Fellowship provides technical training, mentoring, consulting, branding and a \$2,500 award to assist each fellow with successfully developing and launching their creative business.

With new expansions into agribusiness and environmental justice, CED is dedicated to growing its reach to underserved residents across the state. The team continues to support and increase its creative placemaking, historic preservation, agritourism, heritage tourism, beautification and downtown redevelopment work in underserved communities across Southern West Virginia. The CED team is committed to collaborating with local, regional and national organizations to achieve successful outcomes and create a better future for all.

Top: CED Program Leader Adam Hodges with EDC Director Kaysha Jackson
Left: Christine Kinder, CED Extension Educator
Right: Robby Moore, CED Extension Educator

FLASH FLOODING

WEBSITE DEVELOPMENT HELPS WEST VIRGINIA RESIDENTS COMBAT FLASH FLOOD DAMAGE

Floods caused by heavy storms are common in West Virginia, particularly in the Charleston-Kanawha River area. To address this issue, West Virginia State University Researcher Dr. Fernando Rojano, intern Alba Closa Tarres and their team developed an online tool that provides detailed maps of classifying zones with risks of flash flooding in Charleston and its surrounding areas by following historical meteorological data and terrain characteristics.

The informative website is accessible to the public and helps to identify risks in the zones where they live, work or commute by providing simulations of how flash flooding could affect an area. The team launched the site in July 2023 and is enhancing the tool's capabilities by linking it to current and forecasted weather data. The project aims to significantly impact West Virginia by helping prevent problems caused by heavy rain and providing residents with the knowledge they need to be prepared for flash flooding incidents.

"All of West Virginia's urban and suburban areas are located near streams, some of which have the potential to become fast-flowing due to heavy storms," Rojano said. "We chose to create this tool for the Charleston-Kanawha River region because it is the most populated in Central West Virginia, and the terrain topography favors conditions for flash flooding."

Rojano and his team hope their work will positively influence West Virginia and potentially inspire similar projects in other sites prone to flash flooding due to heavy storms. For more information, visit <https://flooding.vercel.app>.

This project is supported by USDA NIFA's Evans-Allen Research Capacity Fund and is part of the Climate Smart Technologies Evaluation and Dissemination in Disadvantaged Appalachian Farming Communities study.



Top Right: Fernando Rojano, Ph.D., and Intern Alba Closa Tarres
Bottom Right: Flooded City Streets



WATERMELON RIND IMPACT

STUDY UNEARTH'S NATURAL DEFENSE AGAINST CANCER CELLS

West Virginia State University Researchers Drs. Umesh Reddy and Padma Nimmakayala, Dr. Gerald Hankins and their postdoctoral associate, Dr. Subramanyam Chinreddy, recently conducted a breakthrough study that focused specifically on the impact of watermelon rind on kidney cancer cells. It was found that the rind can reduce the growth of these cells and make them self-destruct, a process called "*apoptosis*." This information suggests that watermelon rind may have potential as a natural cure for cancer.

Cancer is a severe health issue that affects people all over the world. It is the second leading cause of death in the United States and can be challenging to treat. However, there are simple lifestyle changes we can make to reduce our risk of getting cancer. For example, eating more fruits and vegetables can protect against cancer and has few side effects.

It has been discovered that watermelon rind contains natural compounds that can benefit our health, including antioxidants and an amino acid called *citrulline*, which is found more in the rind than in the juicy part of the watermelon. These compounds help fight against harmful free radicals that can cause damage to our cells and contribute to cancer development.

However, further clinical research is needed to confirm these findings and determine how watermelon rind can be used in treatments. Despite this, eating watermelon rind can still have other potential benefits for our health. For example, the *citrulline* in watermelon rind has been shown to improve blood flow, lower blood pressure and improve exercise performance.

In the meantime, we can all benefit from simple lifestyle changes, like eating more fruits and vegetables, to reduce our cancer risk. So, don't throw away the rind next time you enjoy a juicy slice of watermelon. It might just have some health benefits we're only beginning to understand.



Top Right: Umesh Reddy, Ph.D., Subramanyam Chinreddy Ph.D.
Bottom Right: Juiced Watermelon and Slices



NOT JUST A FRUIT

NEW PEARS SYSTEM HELPS GAUGE PROGRAM SUCCESS

West Virginia State University Extension Service is implementing a new evaluation and reporting system that will help improve the quality and effectiveness of the programs it delivers to the citizens of West Virginia.

WVSU Extension Service's implementation of the Program Evaluation and Reporting System (PEARS) promises to bring many benefits to its employees and the residents of West Virginia. The web-based data management system streamlines data collection, evaluation and reporting, freeing up valuable time and resources that can be redirected to program development and delivery. Additionally, it provides a clear and comprehensive overview of program outcomes and impacts, allowing employees to make informed decisions based on substantial data.

Measuring and demonstrating program impact can help secure additional funding and support, leading to the expansion and enhancement of programs serving West Virginia's residents. Furthermore, by restructuring the collection process and reporting on community-focused programs, PEARS can allow for greater community involvement and empowerment, as employees will have access to clear and actionable information that affects their target audiences.

"PEARS has numerous advantages, including automated reports and a dashboard feature that allows employees to gain valuable insights into the impact of their programs, thereby helping them improve program delivery," said Hannah Payne, WVSU assistant extension administrator. "The platform provides employees access to the latest features, updates and best practices in program evaluation."

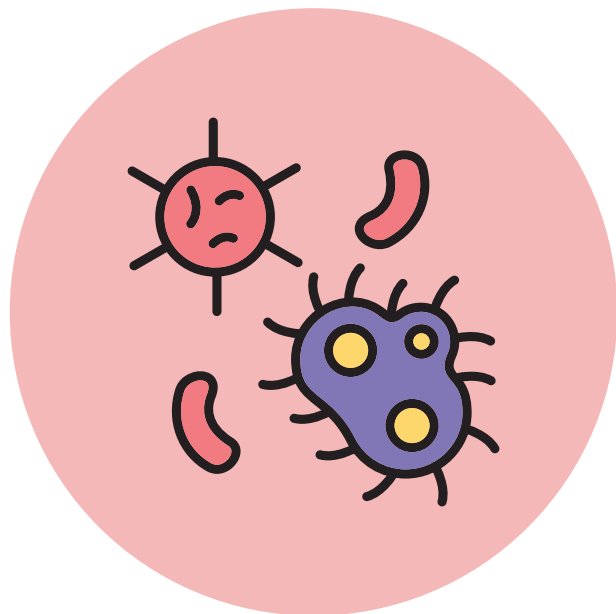
WVSU Extension Service's mission is to improve the lives of West Virginians through research-based programs and education. PEARS supports employees in their mission to deliver high-quality, impactful programming and helps make a meaningful difference in their communities.



Left: Hannah Payne, Assistant Extension Administrator

THREATS UNSEEN

FOODBORNE PATHOGEN STUDY TARGETS BACTERIAL DISEASE PREVENTION



Foodborne illnesses are a significant concern for public health, affecting millions of Americans each year. The Centers for Disease Control and Prevention (CDC) reports that approximately 1 in 6 Americans get sick, 128,000 are hospitalized and 3,000 die from foodborne pathogens annually. Pathogens are tiny organisms that can make people sick when they contaminate food, such as *Salmonella* and pathogenic *E. coli*.

To combat the threat of foodborne illnesses, West Virginia State University Researcher Dr. Yangjin Jung and her research assistants, Olivia McHugh and Elijah Ayilaran, have conducted a microbial challenge study that identifies potential risks and develops intervention methods to control undesirable microorganisms in various food and food-related products.

A microbial challenge study is a crucial tool for food safety because it helps scientists understand how to deal with harmful bacteria and the conditions in which they thrive.

"For example, if a new antimicrobial substance is developed to prevent *Salmonella* growth in chicken products, it must be tested," said Jung. "We observe how *Salmonella* responds to different temperatures and antimicrobial concentrations to determine the minimum amount needed to inhibit or kill its growth. These studies provide scientifically supported information that improves food safety and quality."

During this research, Jung and her team intentionally added a known amount of the target microorganism to a food or food-related product and observed how they interacted and multiplied. They also monitored factors such as temperature, pH and storage conditions. The study mimicked real-life situations where these microorganisms might come into contact with the product.

This type of research provides valuable insights into a food product's ability to resist and prevent microbial contamination. Determining the minimum amount of antimicrobial required to stop the growth of *Salmonella* for a specific time at a particular temperature ensures that food products are safe for human consumption; this is critical in ensuring that food manufacturers, retailers and consumers have access to safe and high-quality food products.

"I strongly believe that this study will not only contribute to filling gaps in food safety research but also offer valuable hands-on research experience to students," Jung said.

Top Right: Yangjin Jung, Ph.D., Olivia McHugh
Bottom Right: Mold and Yeast Plate, Tree Sap Microbes Plate



WATER QUALITY CAMP

KNOWLEDGE FLOWS AT HEALTH SCIENCES AND TECHNOLOGY ACADEMY CAMP

Last summer, West Virginia University's Health Sciences and Technology Academy (HSTA) program partnered with West Virginia State University (WVSU) Extension's 4-H and Center for the Advancement of Science, Technology, Engineering & Mathematics (CASTEM) programs to create an enriching camp experience for high school sophomores interested in health sciences or STEM careers. CASTEM collaborated to create a comprehensive curriculum for the 44 students who attended the six-day residential camp from July 16-21, 2023.

One notable aspect of the camp was that about 75% of the students were female, plus one non-binary individual; this is a significant demographic achievement, as STEM fields typically see more males than females. The students attended morning and afternoon classes, learning about water quality testing using samples from local streams and water sources in the Kanawha Valley. They also learned about different pollutants, why they are essential and how to make soap and the chemicals that work together with water to create it.

The students were also taught about the history of the 2014 Freedom Industries water crisis, the Dupont drinking water contamination in the Ohio Valley and chemical runoff from coal mines. The instructors emphasized the importance of knowing what is in local water supplies and how it affects public health and the surrounding environment.

In addition to the educational curriculum, the camp experience was beneficial in many ways, as it exposed students to topics that are not typically discussed but are very important in everyday life. It also provided them with exposure to WVSU as a potential option for college, with many students expressing their interest in attending the school after graduation.

The HSTA program is specifically designed to assist underserved and underrepresented students in West Virginia, and the Water Quality Camp reached the target demographic.

"The connections made with teachers and schools during the camp open the door for future collaborations beyond this experience," said WVSU 4-H Youth Development Program Leader Sara Price. "We aim to continue providing 4-H programming and curriculum year-round to reach even more students."

Top Right: Sara Price, 4-H Youth Development Program Leader,
Vathani Amarasingham, Extension Educator
Bottom: Impressions from the 2023 Water Quality Camp





COOKING AS YOU AGE

COOKING SERIES FOR SENIORS AND FAMILIES AIMS TO REDUCE OBESITY THROUGH HEALTHY CULINARY TECHNIQUES

West Virginia State University (WVSU) Extension's Family and Consumer Sciences (FCS) department has partnered with FamilyCare, Humana and Vandalia Health to implement "Cooking As You Age," a 12-week series of one-hour cooking classes aimed at promoting healthy eating habits and increasing culinary knowledge for seniors and families.

Registered dietician Angel Cunningham will educate participants about nutrition and cooking healthy recipes utilizing an air fryer. By equipping community members with essential culinary skills and nutritional knowledge, the initiative aims to reduce obesity and diet-related health problems in West Virginia.

To be eligible for the program, enrollees must have at least one chronic disease or lack access to healthy foods. This initiative targets the underserved, who often have limited access to fresh produce and nutrition education.

The series started in January 2024 and aims to promote community engagement and for participants to have proficiency in air frying techniques, a healthy recipe repertoire, improved meal planning skills, positive lifestyle changes, healthier eating patterns and sustainable behavior change.

"Cooking can help combat various mental and physical health issues in people of all ages," said WVSU FCS Program Leader Dr. Donte Pennington. "Seniors are especially encouraged to stay active, and working in the kitchen helps them exercise their bodies and minds."

The outcome measures will include assessing changes in body mass index, blood pressure and fruit and vegetable intake. The initiative hopes to encourage participants to share their knowledge and experiences with friends and family, extending the program's impact to a broader community.

"Cooking As You Age' is an excellent example of how healthcare providers, educational institutions and community organizations can work together to promote healthier living and decrease West Virginia's high rates of obesity and chronic diseases," Pennington said. "Through this cooking series, the project partners hope to empower the participants to make wholesome food choices and achieve better health outcomes."



Learn more about medical nutrition education on the FamilyCare website!

Top Left: Donte Pennington, Ph.D., Orlando Y. Craighead, Merinda Stricklen, Heather Faber and Craig Glover
Center Left: Healthy Food Options

GO WITH THE FLOW

TREE STUDY PINPOINTS PRECIPITATION EFFECTS ON WASTE SYSTEMS

West Virginia State University Agriculture and Natural Resources Extension Associate Jorge Vera has partnered with Marshall University and Spring Hill Cemetery to conduct a study that explores the role of urban trees in alleviating significant precipitation events. The project involves collecting data on stem flow, canopy interception and overall precipitation in the area to understand how each tree is delaying the water from reaching the ground and how it affects sewage systems.

"This study also explores the impact of trees on mitigating flooding, particularly in urban areas, where it is common," said Vera. "I have already instrumented 10 trees and am collecting data from each." The project represents a pivotal step forward in addressing this issue and highlights the vital role that trees can play in lessening its impact.

"This information could change how people look at trees and the ecosystem services they provide," said Vera. "I hope the research will lead to a better understanding of flooding in urban areas and ultimately help minimize its impact on the combined sewage system."

According to Vera, the results of this project have the potential to have a long-lasting impact on urban areas. By mitigating flooding during precipitation events, the project aims to improve people's lives in urban areas, reducing the risk of property damage and loss of life. Additionally, the project's outcomes may help us better understand the benefits of urban trees in mitigating flooding, reducing heat and improving air quality.

The study began in May 2023 and is expected to continue until April 2024. Funding for the project has been provided by Thrust 5, the Garden Club of America and West Virginia NASA Grants.



Top Right: Extension Associate Jorge Vera
Bottom Right: Flood Water Entering Sewer



DEFENDERS, ASSEMBLE!

YELLOW JACKET CYBER DEFENDERS CAMP BUILDS CYBER LITERACY SKILLS IN YOUTH

West Virginia State University 4-H STEM's Yellow Jacket Cyber Defenders camp, funded by the Kanawha County Commission, is a new initiative to increase cybersecurity literacy among youth in the community. It also aims to provide exposure to the exciting and rapidly evolving field of cybersecurity and inspire young people to pursue careers in this area. With the increasing cyber-attack rate in today's world, educating the next generation about cybersecurity best practices and encouraging them to consider careers in this field is essential.



The camp was held from July 24-28 and targeted middle and high school students in the community, giving them a unique opportunity to learn about cybersecurity and explore its different aspects. The camp's curriculum addressed cybersecurity concepts and gave students tools to help them navigate and protect themselves against cyber threats. Cybersecurity is an essential issue in West Virginia, where many people have started working from home due to the pandemic, making them more vulnerable to data attacks. The camp curriculum focused on various topics such as user management, social engineering, wireless networks and the Linux open-source operating system. Additionally, it included enhancement activities to encourage students to think outside the box and develop problem-solving skills.

"Young people need to learn cybersecurity skills because their world is all-consumingly digital," said WVSU 4-H STEM Extension Educator Vathani Amarasingham. "We were one of two institutions that offered a cybersecurity summer camp in WV. Our Cyber Defenders program gives students the tools to protect their personal information and build awareness of cyber threats from malicious sources."

For more information, contact Vathani Amarasingham at vathani.am@wvstateu.edu.

Left: Yellow Jacket Cyber Defenders Camp
Right: Vathani Amarasingham, Extension Educator



FACES OF EXTENSION

DEDICATED TO SHARING RESEARCH-BASED
INSIGHTS WITH THE PUBLIC

West Virginia State University (WVSU) Extension Service is dedicated to sharing research-based insights with the public through creative initiatives, authoritative guidance and a comprehensive range of reliable solutions to address the most pressing issues in West Virginia. As a key outreach division of WVSU and a fundamental component of the land-grant mission of education, research and extension, we are committed to making a positive difference in the lives of our constituents. We are delighted to have had a successful 2023 and are eager to continue serving our communities with even greater dedication in 2024!



AGRICULTURE & NATURAL RESOURCES

DELIVERING RESEARCH-BASED EDUCATIONAL
PROGRAMS AND TECHNICAL ASSISTANCE



Agriculture and Natural Resources (ANR) is committed to delivering research-based educational programs and technical assistance to farmers, commodity groups and agribusinesses, and offering horticultural and pest management assistance to West Virginia. They focus on alternative agriculture, sustainability, urban forestry, cold storage/post-harvest technology, community, youth and adaptive gardening.

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HEALTHY GRANDFAMILIES

PROVIDING SUPPORT, EDUCATION AND SERVICES
TO GRANDPARENTS RAISING GRANDCHILDREN



Healthy Grandfamilies (HGF) provides support, education and services to grandparents raising grandchildren in West Virginia through discussion sessions and social work case management services. Workshops are delivered through the WVSU Extension Service Family and Consumer Sciences program in collaboration with the WVSU Department of Social Work.

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FAMILY & CONSUMER SCIENCES

IMPROVING THE WELL-BEING OF TRADITIONALLY UNDERSERVED FAMILIES AND COMMUNITIES



Family and Consumer Sciences (FCS) offers practical information for individuals, families and communities on raising children, managing money, health literacy, eating well and staying active. The primary goal of FCS is to improve the well-being of traditionally underserved families and communities by providing research-based knowledge and principles applicable to their everyday lives.

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4-H YOUTH DEVELOPMENT

IMPLEMENTING INNOVATIVE EDUCATIONAL OPPORTUNITIES FOR UNDERSERVED YOUTH



4-H and Science, Technology, Engineering and Mathematics (STEM) Youth Development implements innovative educational opportunities for underserved youth in agriculture, STEM, healthy living and civic engagement. Their programs are free, accessible and stretch beyond the boundaries of traditional 4-H clubs by working with educators, schools and community members to bring their curriculum directly to youth.

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COMMUNITY & ECONOMIC DEVELOPMENT

MAKING WV COMMUNITIES VIABLE, ENERGETIC AND ECONOMICALLY SUSTAINABLE



Community and Economic Development (CED) is dedicated to making West Virginia communities viable, energetic and economically sustainable. Their current initiatives include regional and local economic development, downtown revitalization, historic preservation, green projects, community gardens, small business development and support, economic sustainability, non-profit development, economic analysis, disaster preparedness and tourism.

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AG. RESEARCH & EXTENSION COMMUNICATIONS

SERVING AS THE LEAD VOICE TO THE NUMEROUS AG. RESEARCH & EXTENSION AUDIENCES



The Department of Agricultural Research and Extension Communications is responsible for producing and disseminating information via written, digital and spoken means, serving as the lead voice to the numerous Agricultural Research and Extension audiences and supporting the University's USDA National Institutes of Food and Agriculture-funded divisions.

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