

Northern Shenandoah Valley 2022 Annual Report

Virginia Cooperative Extension

Clarke County

Frederick County

Page County

Shenandoah County

Warren County

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Virginia Cooperative Extension is a partnership of Virginia Tech, Virginia State University, the U.S. Department of Agriculture, and local governments. Its programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, military status, or any other basis protected by law.

Noteworthy Metrics for 2022 Programming



1,008 youth and adults certified, recertified, or credentialed for workforce professional development and through workplace readiness programs*



\$1,184,999 value of volunteer time contributed*



668,592 virtual educational contacts*



724 volunteers*



1,753 youth enrolled in 4-H*



27,584 face-to-face youth educational contacts*



32,434 of face-to-face adult educational contacts*

*compiles figures from all Northern Shenandoah Valley VCE staff (figures based on calendar year)



Virginia Cooperative Extension
Virginia Tech • Virginia State University

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Community Voices

“My children have attended day camp at the Clarke Extension Office over the past two summers. I am grateful the county has programs that allow my children to grow and experience new things. It’s been great to be able to leave my children in a safe environment while at work.”



Parent and Clarke County Resident

220

Youth attended 4-H Camp this year

Partners for Solutions

“The Clarke-Warren 4-H Camp provides an excellent opportunity for youth to grow and learn valuable life skills. Lifelong friendships are made, and participants have the opportunity to become more independent. Camp is one of my favorite programs; seeing the impact it makes on each individual is fulfilling and rewarding.”



Stacy Swain
4-H Youth Development Educator



2022 Clarke-Warren 4-H Camp.

Sharing Knowledge

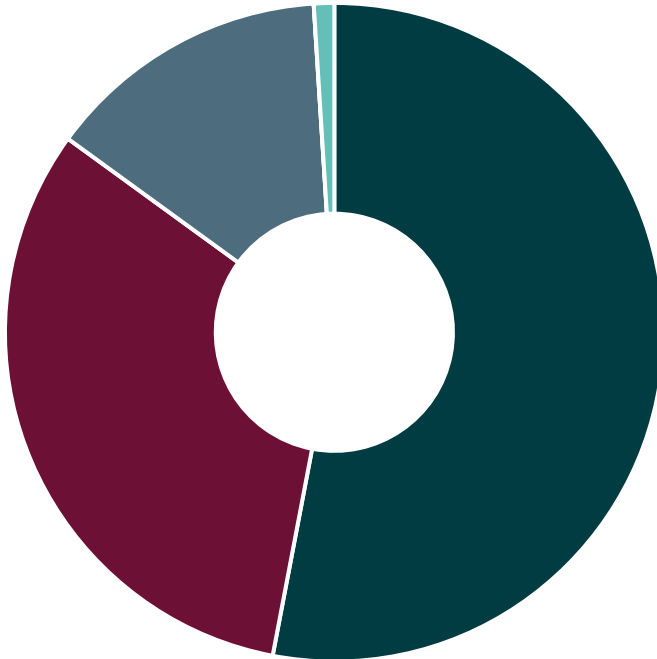
One of the challenges for youth in Clarke County is the lack of access to enrichment activities and programs. The Clarke County 4-H program offers both day and overnight camps for families who wish to enroll their children in educational programming throughout the year. The Clarke-Warren Junior 4-H Camp offers all county youth, ages 9-13, the opportunity to learn skills through hands-on experiences. The camping program helps youth build self-esteem and challenges them to be innovative and creative in an overnight camp setting.

Clarke County youth also have access to a variety of day camps and programs, including sewing, cooking, and food preservation. These programs are offered in collaboration with community partners, such as Clarke County Parks and Recreation. Scholarships are available for youth who wish to participate in day and/or overnight camping programs.

The impact of these camps has allowed youth in the county to develop life skills, strengthen communication skills, and build leadership skills. In a post-camp survey, youth responded that they felt more confident making decisions for themselves and learned how to set goals. Parents have also reported that their children are more independent, both at home and away.

Clarke County

Funding by Source



53% State

32% Local

14% Federal

1% Other

Total Funding: \$183,046

\$2.17

return on investment
for every dollar
invested by the county
in **Clarke County**

\$30,677

Value of extension
volunteer hours in
Clarke County

To find out how you can support your local Extension office,
visit www.cals.vt.edu/make-a-gift.



Community Voices

“We fed less hay this past winter than we ever have and weaned more heifer calves than ever. We have more total head on the property than we have ever had. Presently we have more grass than we have ever had for this time of year. We have had our best conception rates ever for this time of the year. Presently we are in a severe drought and by the looks of our grass, you would never know it.”



Wayne Snapp
Marlboro Angus

163

Extension Master Gardener volunteers

Partners for Solutions

“Our Managing Your Money series addresses important financial skills, including understanding credit, establishing a spending and savings plan, banking, maintaining insurance, record-keeping, and getting out of debt. By teaching people to take control of their finances and live within their means, we are strengthening Frederick County families through financial education.”



Karen Poff
Agent



Participants at a sprayer calibration and pesticide safety workshop.

Sharing Knowledge

To ensure farmers and green industry professionals have the tools, education, and ability to safely manage pests, federal and state pesticide laws require applicators to be trained and certified, and to maintain continuing education. A lack of pesticide safety knowledge and best management practices threatens human health and the environment. Additionally, without integrated pest management, many farm operations, commercial businesses, and residential properties would suffer economic hardships.

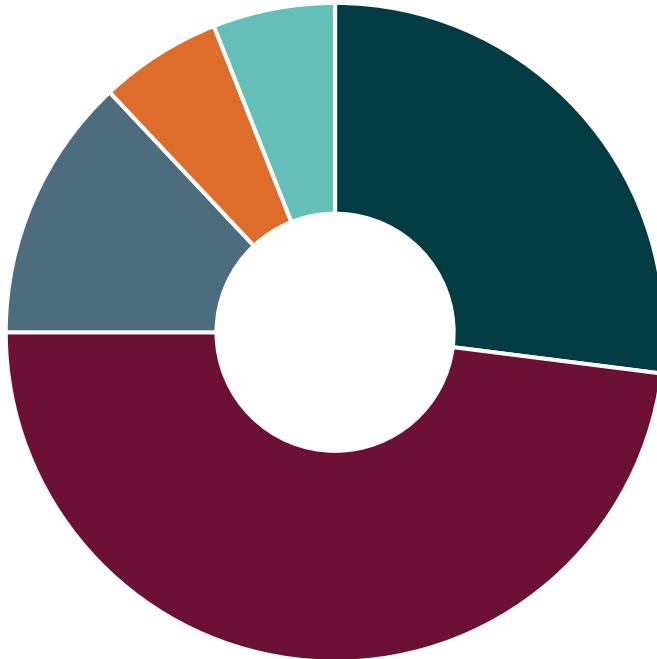
There are over 550 certified commercial applicators, registered technicians, and private applicators in the Northern Shenandoah Valley. Annual programming offered through Extension helps applicators ensure worker health, food safety, protection of water quality, and general environmental health by the safe use of pesticides. It also builds the community labor force and improves workplace readiness through licensing and recertification.



Virginia Cooperative Extension
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Frederick County

Funding by Source



27% State

48% Local

13% Federal


6% Grants

6% Other

Total Funding: \$602,184



\$1.08
return on investment
for every dollar
invested by the county
in **Frederick County**



\$428,767
Value of extension
volunteer hours in
Frederick County

To find out how you can support your local Extension office,
visit www.cals.vt.edu/make-a-gift.

Community Voices

“Free Market Fridays not only helped me stretch my food dollars, but also helped me bring down my A1c and improve my liver tests.”

Patsy

Participant, Free Market Friday Program

1,616

Participants in local programming

Partners for Solutions

“4-H focuses on community needs and values within our programming. This has created an opportunity for in-school and community programs involving agriculture, nutrition, and job preparedness. 4-H programs involving animal agriculture, gardening, cooking, nutrition, leadership, and STEM are preparing youth to be confident and skilled members of our community.”



Meagan Dyer
Agent



Meagan Dyer, associate Extension agent for 4-H Youth Development, teaches a group of students at Stanley Elementary.

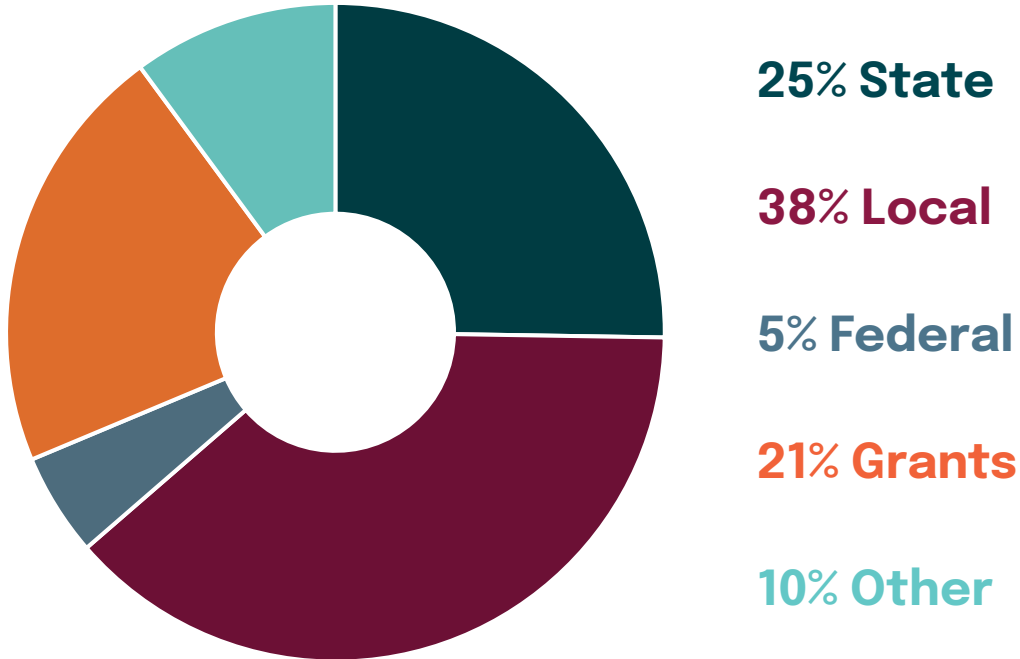
Sharing Knowledge

In the 2019 Valley Health Community Needs Assessment, three of the priority health needs identified for Page County were lack of physical activity, poor nutrition, and obesity-related chronic diseases. This demonstrated a need to provide educational programs addressing healthy living.

The Page County Extension Office offered both youth and adult programming addressing this concern. Extension agents put knowledge in action by offering programs focused on gardening, nutrition, and physical activity. Programs included a mini-series on gardening, container gardens, nutrition education, and free produce and recipe distribution.

Through our efforts over 100 students in the after-school programs learned gardening and nutrition skills. During the summer, 300 households benefitted from Free Market Fridays, a program that distributed free produce and healthy recipes to communities. Additionally, six households participated in gardening education and received seeds to plant at home.

Funding by Source



Total Funding: \$330,313



To find out how you can support your local Extension office, visit www.cals.vt.edu/make-a-gift.

Shenandoah County

600 N. Main Street, Suite 100
Woodstock, VA 22664
shenandoah.ext.vt.edu
540-459-6140



Community Voices

“4-H taught me that sometimes being uncomfortable is a sign of growth. Before 4-H, I was terrified of public speaking and of failure. Now I have given more speeches in my lifetime than I can count. I have also failed, probably just as many times or more. 4-H taught me that failures don’t mean I am a failure, they mean that I am still learning.”



Lindsey Rigby

Shenandoah 4-H County Council President and Virginia 4-H All Star



Inspecting plants that have been propagated via tissue culture.

1,008

Youth and adults certified, recertified, or credentialed

Partners for Solutions

“Our Quick Money Chats program offers participants a convenient way to get their money management questions answered. We reach out virtually to answer questions, even if the chat is needed on an evening or weekend. Most people improve their financial knowledge and feel less stressed and more in control afterward.”



Karen Lynn Poff

Agent

Sharing Knowledge

Developing and sustaining a well-trained workforce is important to the Northern Shenandoah Valley. Both youth and adults need training to develop skills to enter the workforce and to keep up with evolving technologies or changing careers. Over the past two years, Virginia Cooperative Extension agents in the Northern Shenandoah Valley have offered professional development opportunities that certified, recertified, or credentialed more than 1,008 youth and adults. Opportunities have included certification or recertification for ServSafe, Commercial Pesticide Applicators, Private Pesticide Applicators (farmers), Certified Beef Quality Assurance, Youth for the Quality Care of Animals, Good Agriculture Practices, FDA Food Safety Produce Training Requirements, Certified Nutrient Management Planners, and Certified Crop Advisors.

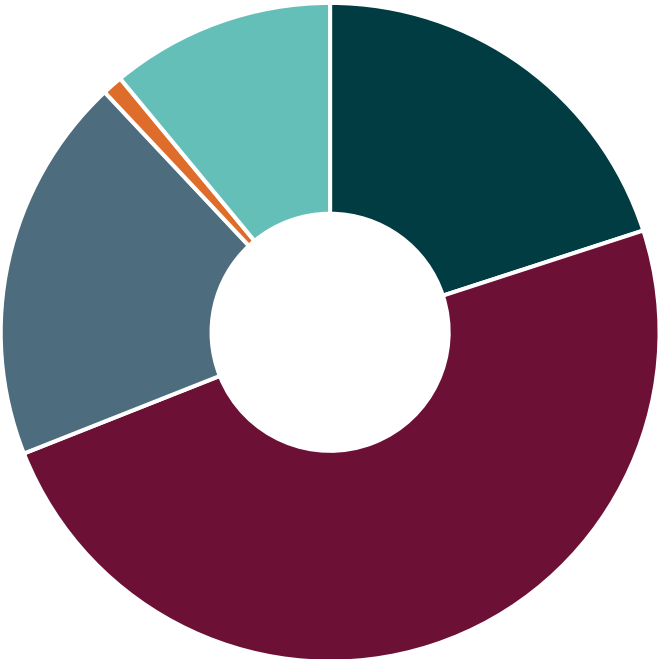


Virginia Cooperative Extension

Virginia Tech. • Virginia State University

Shenandoah County

Funding by Source



20% State

49% Local

19% Federal


1% Grants

11% Other

Total Funding: \$410,284



\$4.05
return on investment
for every dollar
invested by the state
in **Shenandoah County**



\$97,297
Value of extension
volunteer hours in
Shenandoah County

To find out how you can support your local Extension office,
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Warren County

220 N. Commerce Avenue
Suite 500
Front Royal, VA 22630
warren.ext.vt.edu
540-635-4549



Community Voices

“The genuine impact that 4-H had on my young life led me to partner with a local nonprofit in order to send 17 children to 4-H Camp this year. It was truly an honor.”



Michael Williams
Student Support, EWM Elementary

\$1,927

Savings or debt
reduction per program
participant

Partners for Solutions

“I was excited to lead an Inquisitive Shepherd course. The program featured 20 hours of instruction over nine weeks, a resource website, and reviewable class videos developed to provide in-depth knowledge of small ruminants. Two hundred thirty-seven Virginians took the 2022 course and learned about livestock management, nutrition, breeding, and marketing.”



Corey Childs
Agent



A volunteer Master Financial Educator shares knowledge with a Managing Your Money class.

Sharing Knowledge

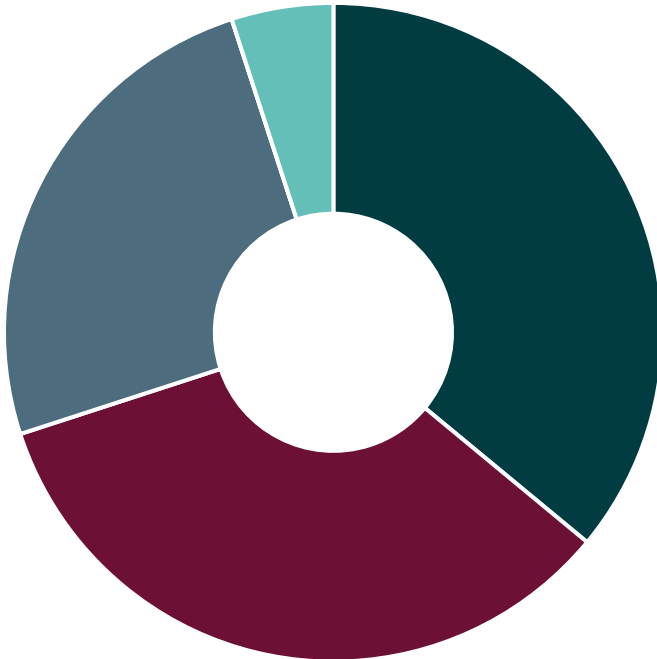
People who manage money well are better able to avoid financial problems, maintain stable housing, and remain self-sufficient.

Our Managing Your Money series improves financial well-being by helping people achieve goals such as reducing debt, buying a home, paying for college, or saving for retirement. Participants learn proven ways to take control of their finances through sessions on budgeting, credit, banking, insurance, and getting out of debt.

Since 2011, 610 people have participated. Many develop written spending plans, increase savings, and pay down debt.. For a recent five-year period, 58 people put a total of \$68,645 into savings and paid off \$43,130 of consumer debt. That averages to \$1,927 in savings or debt reduction per person in just three months after they completed the program.

Warren County

Funding by Source



36% State

34% Local


25% Federal

5% Other

Total Funding: \$352,800



\$1.92
return on investment
for every dollar
invested by the county
in **Warren County**



\$37,915
Value of extension
volunteer hours in
Warren County

To find out how you can support your local Extension office,
visit www.cals.vt.edu/make-a-gift.

VIRGINIA COOPERATIVE EXTENSION

Advancing Wellbeing of All Virginians

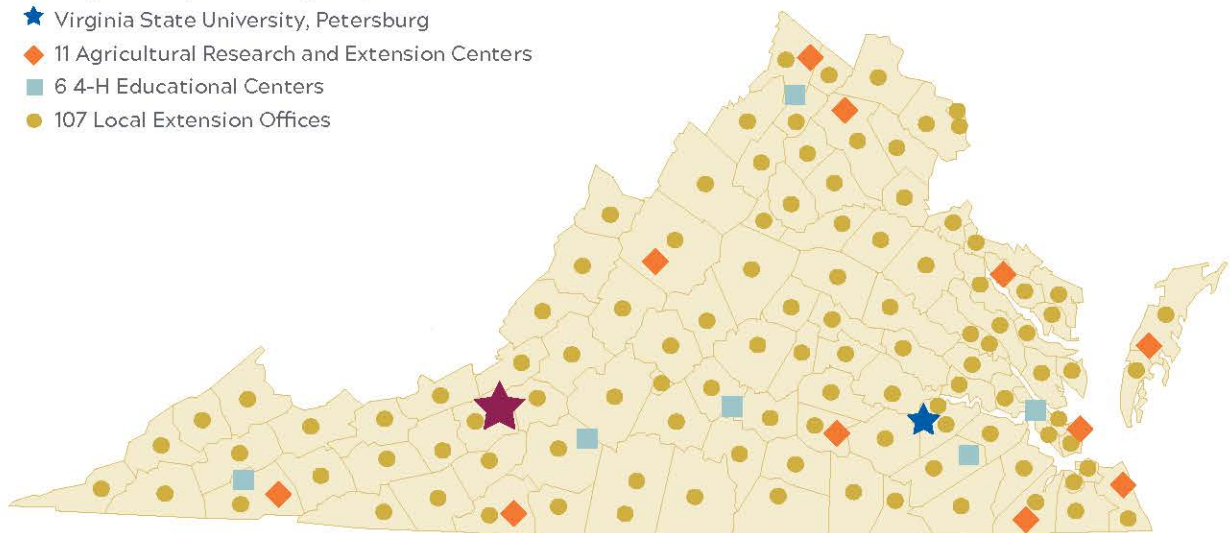
At Virginia Cooperative Extension, we take concrete action that advances the wellbeing of all Virginians. Whether we're building a more resilient food system, supporting local economies, or mentoring youth, we help manage our natural resources, bridge access to knowledge, and shape a brighter future for our communities.

Extension faculty and staff come from a variety of backgrounds which helps us better understand the distinct needs of all Virginians. It is through this lens that we can accurately and effectively assess, prioritize, and respond to local and state needs.

Health and wellbeing
Children and youth
Safe and stable food supply
Strong families
Resilient communities
Environmental health

Virginia Cooperative Extension has an existing network of facilities (107 city and county unit offices, 11 Agricultural Research and Extension Centers, six 4-H centers and two university campuses and satellites), professional extension staff, and university specialists to deliver vital educational programs to the public. This network is enhanced by a connection to the resources of the land grant universities across the nation and is already located in every county and major city in the state.

- ★ Virginia Tech, Blacksburg Campus
- ★ Virginia State University, Petersburg
- ◆ 11 Agricultural Research and Extension Centers
- 6 4-H Educational Centers
- 107 Local Extension Offices



VIRGINIA COOPERATIVE EXTENSION

Addressing the needs that you care about in your community

STRENGTHENING FAMILIES

Extension offers local programs that ensure that families have the skills and opportunities they need to manage their money, and develop strong family relationships to ensure secure and healthy families.

- Financial literacy and financial education
- Human development programming
- Caregiving across the lifespan
- Mental Wellbeing

YOUTH

As the youth development arm of Virginia Cooperative Extension, Virginia 4-H works throughout the commonwealth to help all youth learn by doing to help them become the best versions of themselves. 4-H youth are empowered to be upstanding citizens who are actively engaged in their communities and around the world.

- Helps youth become leaders in their communities
- Helps youth make healthy decisions and lifestyle choices
- Agriculture programs equip youth to feed the future
- Emphasizes the importance of STEM through hands-on projects

COMMUNITY

Virginia Cooperative Extension works on the big issues, partnering with governments and organizations to solve systemic challenges in a way that benefits all Virginians. The commonwealth counts on us for their immediate land, health, and community needs to fix problems as they arise or seize opportunities.

- Addresses critical local needs
- Promotes economic prosperity
- Fosters justice, equity, and respect for all

FOOD

Virginia Cooperative Extension programming results in safer food from farm to table, increased compliance with food regulations, and more markets available to producers.

- Community, local, and regional food systems
- Food safety, food preservation, and food-based businesses
- Master Food Volunteers

ECONOMY

Virginia Cooperative Extension programming supports the sustainability and profitability of the Commonwealth's agriculture and forestry industries, Virginia's number one economic drivers that in turn support our communities and provide us with food.

- Agribusiness management and economics
- Agronomy and horticulture expertise
- Animal production and value-added marketing
- Emerging pests and pesticide management
- Natural resources management

HEALTH

Extension is an integral part of helping Virginians follow a healthy lifestyle and learn how to prevent chronic diseases. Extension empowers people to make healthy choices so they can prevent, delay, and manage chronic diseases.

- Nutrition and Fitness
- Chronic disease prevention
- Substance misuse and abuse

ALSON H. SMITH JR.

Agricultural Research and Extension Center



Srdjan Acimovic was hired in May 2021 and, along with two research associates, Bidhan Dhar and Fatemeh Khodadadi, the team visited over 40 farms to collect apple bitter rot and fire blight samples. They formed a large collection of plant pathogen isolates, and are using new plant pathogen diagnostic equipment for genetic analyses of this collection. Apple bitter rot is one of the main diseases that impacted the fruit industry in Virginia in recent years. This disease is caused by several fungal species in the genus *Colletotrichum*, which infect apple fruit during summer. If fruit are not protected, infections quickly progress, fruit drop from the tree, and rot leads to load rejections as fruit cannot be used fresh or for processing.

Because several closely related species of fungi cause this disease, the team used gene sequencing and built a phylogeny tree to see how they relate to each other and to positively identify them. Identification is important because different species respond differently to fungicides and that complicates disease management and fungicide resistance prevention. The team is discussing its research ideas and disease management options with growers, and are including cooperators in project proposals going forward.

PARTNER WITH US

595 Laurel Grove Road
Winchester, Virginia
(540) 869-2560
<https://www.arec.vaes.vt.edu/arec/alson-h-smith>



“My lab works on integrated approaches to improve grape disease management, including the evaluation of a novel biological control agent against grapevine crown gall, which causes significant economic losses among growers in Virginia and around the world. As part of the SmartFarm Innovation Network and Center for Advanced Innovation in Agriculture, we launched two projects with a Virginia-based startup company, Agrology. Together, we are investigating the use of environmental sensor networks, near-infrared sensor images from an aerial drone, and machine learning models to develop precise disease management strategies.”



MIZUHO NITA
ASSOCIATE PROFESSOR, GRAPE PATHOLOGY EXTENSION SPECIALIST

“Dr. Sherif has taken the needs of our Virginia growers to heart and is doing the work required to keep Virginia growers competitive in a complex marketplace. As a grower and consultant working with growers throughout the Mid-Atlantic, I am excited about what Dr. Sherif is bringing to the table. We will all benefit from it.”



BILL MACKINTOSH
MACKINTOSH FRUIT FARM

ALSON H. SMITH JR. AREC AT A GLANCE



DISCIPLINES

- Tree fruit entomology
- Tree fruit and specialty crop horticulture
- Tree fruit and specialty crop pathology
- Grape pathology
- Viticulture

INNOVATIVE TECHNOLOGIES

- Membrane-based grapevine virus sampling kit
- Molecular tools to detect and identify major grape pathogens
- Marker-Assisted Breeding (MAB) of apple
- CRISPR/Cas9-mediated gene editing of apple
- Weather-based prediction models for managing crop load in apple
- Partial canopy rain shelters for grapevine
- Novel fungicide chemistry for grape disease management

FACILITIES

- 124 acres on the farm with over 40 field plots
- 6 modern labs
- 24,500 square foot complex
- 100 person auditorium

INDUSTRY PARTNERS

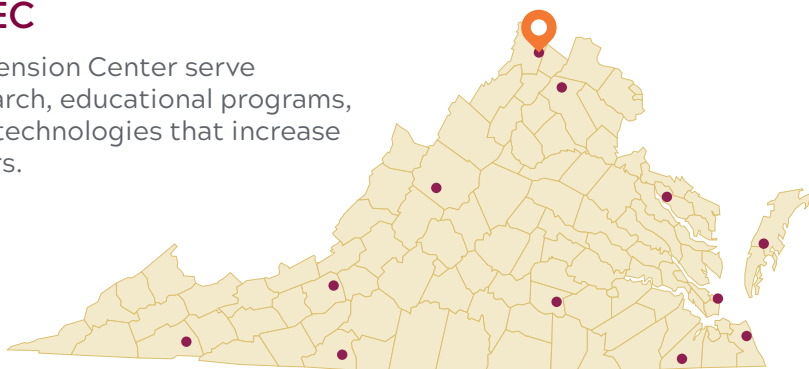
- Virginia Agribusiness Council
- Wine Industry
- Apple Industry
- Virginia Department of Agriculture and Consumer Services

ABOUT THE ALSON H. SMITH JR. AREC

The Alson H. Smith Jr. Agricultural Research and Extension Center serve Virginia's horticultural fruit industries through research, educational programs, student training, and the development of tools and technologies that increase sustainability and resiliency of commercial producers.

A COLLABORATIVE NETWORK

The ARECs are a network of 11 centers strategically located throughout the state that emphasize close working relationships between Virginia Agricultural Experiment Station, Virginia Cooperative Extension, and the industries the work with. The mission of the system is to engage in innovative, leading-edge research to discover new scientific knowledge and create and disseminate science-based applications that ensure the wise use of agricultural, natural, and community resources while enhancing quality of life.



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VIRGINIA AGRICULTURAL
EXPERIMENT STATION
VIRGINIA TECH.



Northern Virginia 4-H Educational and Conference Center

600 4H Center Drive
Front Royal, VA 22630
www.nova4h.com
540-635-7171



Community Voices

“Working with Katie Tennant at the Northern Virginia 4-H Center has been a pleasure.



Our partnership has provided educators in the region with valuable wind and solar classroom resources as well as training and access to a competition wind tunnel for students to prepare for our renewable energy challenges.”

Remy Pangle

Education Manager, Center for the Advancement of Sustainable Energy at JMU



E. Wilson Morrison Elementary Early Act Club.

Sharing Knowledge

Caring adult role models are one of the eight essential features of youth development. They are imperative to having a successful environment for youth development. Youth need adults in their lives that care even when they don't have to. 90% of students at E. Wilson Morrison live at, or below, the national and state poverty line making positive adult partnerships even more important to those youth.

Our 4-H Center has partnered with E. Wilson Morrison and their Early Act Club to provide mentorship through a number of avenues. Through grant-funding from the Rotary Club of Warren County & The Warren County Educational Endowment, we have brought the students to our Center to participate in teambuilding field trips, sent students to a 5-day residential summer camp program, and traveled to their school to speak to their club about opportunities for them to get involved in local 4-H programs.

Among other skills these interactions have allowed students to: participate in new learning experiences, take responsibility for their actions, appreciate nature, deal with conflict effectively, and be positive according to Warren County Junior 4-H Camp Surveys from 2022.

“The genuine impact which 4-H had on my young life (back in the 1970's and 80's) led me to partner with this local non-profit in order to send seventeen children to 4-H camp this year, from the most underserved community in our county. It was, truly, an honor.”
- Michael S. Williams



2,331

Number of youth
empowered through
camp/programs

Partners for Solutions

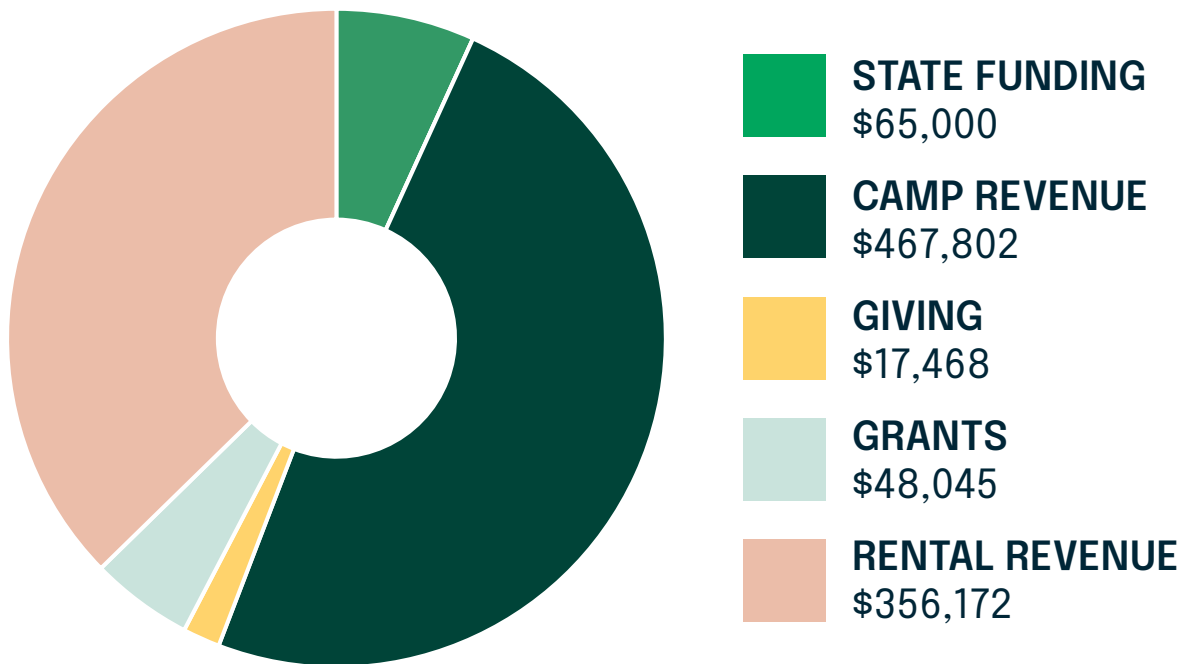
“As the Junior Camp coordinator, I invested in 20 young adults on our summer staff to provide support, mentorship, and training in skills such as conflict resolution and leadership to facilitate growth and lifelong learning.”



Tatyana Yates

Program Director

Funding by Source



To find out how you can support your local 4-H Center,
visit www.cals.vt.edu/make-a-gift.

Program Impacts

Managing Your Money Series Improves Financial Well-Being



Middle- and lower-income individuals and families experience financial distress because of inadequate savings, too much debt, and poor planning for major life events, as well as from events such as illness, layoffs, or divorce. Many individuals and families also rely on expensive and sometimes even predatory financial services, such as check-cashing services, payday loans, rent-to-own agreements, or pawn shops. Regardless of income, families across Virginia lack some of the most basic skills to promote financial stability. A 2018 Financial Capability study (the most recent available) by the FINRA Foundation, found that Virginians struggle with making ends meet, planning ahead, managing financial products, and financial knowledge and decision-making. The study found that 20% of those responding had spent more

than their income over the previous year; 47% lacked a rainy-day (emergency) fund; 36% only paid the minimum on their credit cards during some months in the previous year; and only 31% could correctly answer four or five questions on a basic five-question financial literacy quiz.

The Managing Your Money Series is a six-lesson series that shows participants how to take control of their finances, covering budgeting, credit, banking, insurance, record-keeping, and getting out of debt. Participants include not only those who may be struggling financially; but also, families who have financial goals such as owning a home, paying for their children's college education, or saving for retirement. Each session includes a list of "Action Steps" to help participants apply what they learn to their own situation. In 2022, we offered the series seven times, with a total of 74 people participating and 31 people completing the entire series.

The number of evaluation responses for the end-of-session evaluations varied from 36 for the session on getting out of debt to 50 for the session on understanding credit. Participants responding to the evaluations indicated that they learned how to: prevent identity theft (98%); get a copy of their credit report and get errors corrected (94%); adjust spending to live within their income (98%); protect themselves from predatory lending (94%); save money on insurance (90%); and develop a debt repayment plan (100%). Eight participants responded to a follow-up evaluation and listed behavior changes they had made. Of those who had not done so before the program 80% established emergency savings funds, 75% review their credit report annually, 83% balance or reconcile their accounts monthly, and 100% have a plan for paying down debt. These participants indicated that since the program they had put a total of \$34,850 into savings/investment/retirement accounts and paid \$8,200 towards consumer debt. This equates to an average of \$5,381 of savings or debt reduction per person and a total of \$43,050 in net financial gain for all who responded in just three months following the series. One person said, "Having a plan to pay off debt, allowed me to pay off my car." Another commented, "The program has given me awareness on many things like insurance, mortgages, credit cards, and how and where to seek help if needed."



Northern Shenandoah Valley Pesticide Safety Education Program

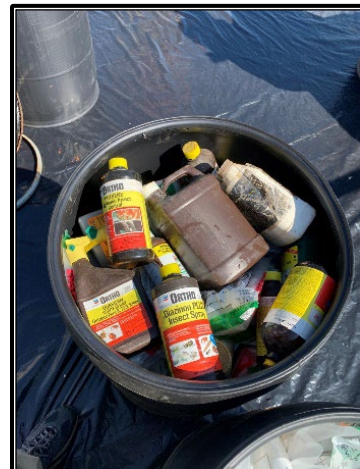
The federal and state pesticide laws require applicators to be certified to use restricted use pesticides. In addition, VA law requires all commercial applicators to be certified to use any pesticide and to renew their pesticide licenses through continuing education every two years. Without pesticide safety and IPM education to enable these individuals to do so, many would suffer economic hardships and violate the law. A lack of knowledge threatens human health and the environment. There are over 550 certified commercial applicators, registered technicians, and private applicators in the Northern Shenandoah Valley.

In January 2022, PD7 ANR Agents offered the annual commercial pesticide recertification workshop at the West Oaks Farm Market in Winchester. Due to the proximity of PD7 to other states, this offering is certified by VA, MD, WV, DC, and PA for recertification. In March, a full-day core training followed by offering commercial, private, and registered technician examinations at the New Market Fire Hall for 49 participants. In fall 2022, agents conducted three VDACS approved re-certification programs in pesticide safety and IPM in Winchester, Woodstock, and Stanley, collaborating with Central Shenandoah Valley Agents to better accommodate private applicators. Additionally, private applicator recertifications were offered by PD7 Agents at the Winchester Area Fruit School in March and the Mid Atlantic Fruit and Vegetable Conference in Hershey, PA in February.

In 2022, PD7 ANR Agents partnered with Virginia Department of Agriculture and Consumer Services to offer the Pesticide Collection Program at the Page Cooperative and at Southern States in Stephens City. This rotating program is offered locally every five years as a collaborative effort to remove old, off label, unwanted pesticides from the environment. Agriculture producers and suppliers, golf course managers, green industry professionals, as well as the general public took advantage of the program.



During 2022, 141 private pesticide applicators and 157 commercial pesticide applicators were trained for recertification in PD7. The five-year total pesticide recertifications for license holders offered through VCE NSV programs is 598 private applicators and 1,092 commercial applicators. Nearly 10,500 pounds of unwanted pesticides were collected through the VDACS Pesticide Collection Program. Pesticide Safety Education programming helps applicators ensure worker health, food safety, protection of water quality, and general environmental health by safe use of pesticides. It also builds the community labor force and improves workplace readiness through licensing and recertification.



Inquisitive Shepherd Small Ruminant Management Program

This educational program is designed to be a “one stop shop” to help educate small ruminant producers, build coalitions and develop marketing channels for Virginia producers.

PD7 is home to a cross section of very large commercial, mid-sized, and small “hobby, niche or homesteading” type farming operations. Many of the landowners are first time landowners or land managers with little knowledge or training. The need for a set of diverse educational programming options exists on a year-round basis. As larger acreage farms are developed into smaller acreage “farmettes” or generational turnover occurs and “new management” takes the reigns, the need for educational programming increases among the region’s new producers. The number of residents interested in Extension’s animal science and natural resource programming is growing. The economic impact of the many forms of livestock production is important to each of the counties in PD7 as many of these clients market direct to consumer locally through various means.

Conversations and collaborations with the various county Economic Development and/or Tourism departments have driven home the message that sustaining an agricultural balance is a vibrant component of their comprehensive plans. The 2021 State of the Commonwealth Report from Old Dominion University and its Dragas Center for Economic Analysis and Policy and Strome College of Business states the Winchester Metropolitan Statistical Area (MSA), which is comprised of Winchester, Frederick County, and Hampshire County, West Virginia, has been dramatically impacted in recent years by the high number of Northern Virginia residents who have moved to the area. This region is now considered the fastest growing region of the state.

Area small ruminant producers are considered a small producer as flock or herd sizes average less than 25 animals. Therefore, these small flock producers cannot take advantage of many marketing opportunities or opportunities based on "economy of scale" to improve gross farm gate receipts and total revenue. Although local demand for sheep and goats is high in the region, many producers do not feel they have a way to reach perspective buyers. The direct off farm sales of sheep and goats has increased in 2022 due to the periodic shortages of meat available in the supermarket meat case related shifts in buyer awareness that were realized in 2020, we will see if this creates long term trends. Regional producer groups, economic development professionals, and consumers have identified this problem of flock size as a limiting factor in the expansion of small ruminants in the region.

I developed a teaching outline and course description then recruited 9 volunteer speakers to create a 9 week - 9 session intensive small ruminant management course. Advertising was primarily online and through social media outlets.

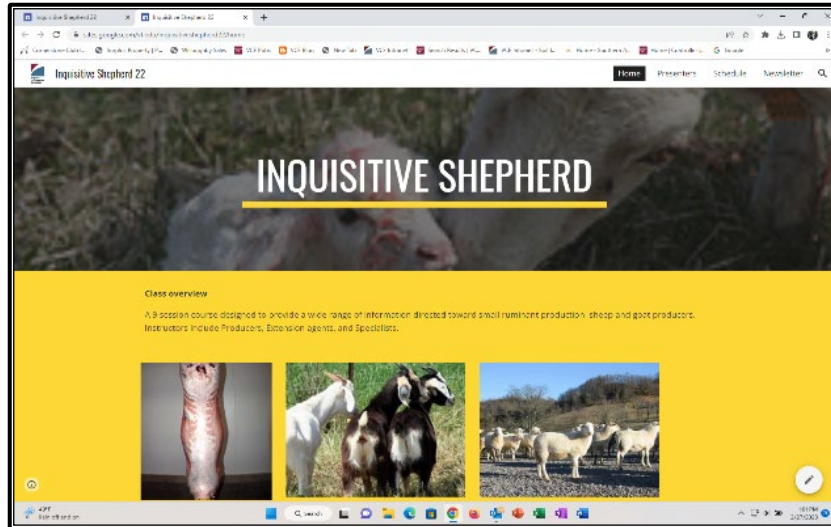
Inquisitive Course Outline (all online version)

<u>Section/class</u>	<u>Section/class</u>
Section 1 Getting Started	Section 7 Predator Control/Marketing
Section 2 Handling/Facilities	Section 8 Forages
Section 3 Genetics/Reproduction	Section 9 Budgets
Section 4 Nutrition	Spread sheets
Section 5 Health	Quality Assurance/Secure Sheep and Wool Supply Plan
Section 6 Internal/External Parasites	

“The Inquisitive Shepherd” online training (classes were recorded) had 433 individual participating registrations. The registrants represented 35 states and 9 international countries. A private “Inquisitive Shepherd” google website and drive were created for class participants to view and download the videos and educational materials at their convenience.

Participant Self reporting

- Experience w/sheep or Goats %
 - Beginning 21
 - < 5 years 40
 - <10 years 12
 - 10 years > 15
- Generational Farmer 12
 - 53% Virginia Residents
 - 47% Out of state
- Post Course survey
 - 35% returned
- All Increased their knowledge of industry targeted management protocols

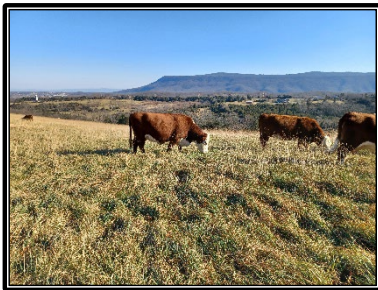


Improving Farm Profitability and Water Quality Through Better Grazing Management



Virginia Cooperative Extension's Graze 300 VA Initiative is improving profitability for livestock producers and improving water quality for the entire commonwealth. Data collected in year 2021 shows that 10.6% of Virginia's cow-calf producers (roughly 1,900 producers representing 60,000 head of cattle) are extending their grazing season beyond 266 days. Extending the grazing season has resulted in a net economic benefit of over \$600,000 per year for these Virginia farmers. With regard to water quality, 10.6% of Virginia's cow-calf producers in the Bay watershed represents healthier sod across 50,000 to 75,000 acres of pasture in the Chesapeake Bay Watershed and a commensurate improvement in water quality.

Although the number of livestock producers adopting better grazing management systems is steadily growing, the adoption rate is very slow. There is interest doubling the number of livestock producers using better grazing management.



To address the question "What is stopping additional farmers from adopting better grazing management practices?", Extension engaged the Virginia Tech Sociology Department. A team of Extension faculty, farmers, industry leaders, and conservation agencies worked under the leadership of sociology experts to complete a survey titled *Social Science Research on Factors Influencing Farmers' Attitudes Toward the Adoption of Rotational Grazing in Virginia*. A total of 535 Virginia livestock producers participated in the survey. Four major barriers were identified: #1 The amount of work required to start rotational grazing; #2 Access to shelter/shade; #3 Water source constraints; and #4 Difficulty producing winter feed.

The entire Graze 300 VA Team including Extension faculty, farmers, agribusinesses, conservation agencies, and others is re-thinking these priority limitations to develop solutions to these issues. For example, one Extension Agent is beginning to explore equipment innovations to reduce the amount of work needed to install and remove portable electric fence while strip grazing cattle. Another Extension Agent completed a grant application to get additional resources to address the issues identified through the sociology study.

In summary, while the Graze 300 VA Initiative has resulted in tangible benefits for the commonwealth, the process is not complete. The results of this sociology study has revealed critical barriers. Addressing these issues should enable additional livestock producers to enjoy the economic benefit of improved managed grazing practices and will benefit the commonwealth through better water quality.



Energizing Equine Education Programming in PD7



The economic value of the equine industry is quite large in Clarke, Warren, and Frederick Counties and growing in Shenandoah. Equine groups, various ELC's, and client contacts have identified community Equine producer support as a need in the area. Economic Development and/or Tourism departments in Clarke/Frederick and Warren Counties have stated a message that sustaining a highly productive equine economy is a valuable and vibrant component of their comprehensive plans and tourism draw.

For efficiency, ANR programming, particularly livestock and equine programs, often shared common topics such as pasture management for all species, plants toxic to livestock, and husbandry for small ruminants: goats and sheep simultaneously. These topics were relevant to the equine community but limited in depth. Equine specific programming opportunities had not been a focal point of emphasis for several years.

Inventory Learners and Needs. The first step to expand the depth and breadth of equine and livestock education programming was to inventory learners, learner needs, and stakeholders such as program partners, sponsors, and hosts. Online learning opportunities were chosen as a form to reach a broad audience and remove any geographical travel limitations.

Categorically, the learners generally aligned by equine discipline owned or produced; their learner needs likewise fell into two large categories: beginner and experienced. Often, the beginner and experienced producer categories could be further sorted into avocation and vocation producers. Avocation producers generally consisted of hobby farmers; vocation producers consisted of those intent on making a profit or a living from their animal enterprises. Other stakeholders were Extension Agent peers in other counties, the Extension Specialists on campus at VSU and VA Tech, and potential program sponsors.

The following informational educational series were offered.

- 2022 Equine Nutritional series (online)
 - G.I. Tract
 - Forage Management
 - Supplements
 - Feed labels
 - Life Phases
- Horse Trailer Safety (In person) 25 participants
- Building Equine Pastures (In person) 6 participants



The Pandemic Drives Thriving Northern Shenandoah Valley Extension Master Gardener Seed Lending Libraries



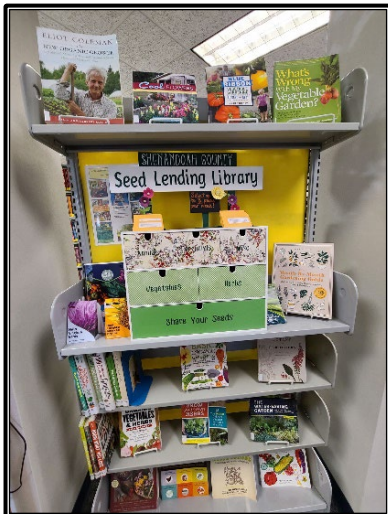
Because of the COVID pandemic in 2020, interest in gardening soared internationally. Individuals spent more time at home with fewer structured work and community activities leaving a record number of individuals taking up gardening for the first time. This increased interest in gardening, along with supply chain disruptions, led to seed shortages.

With imposed pandemic restrictions on Extension Master Gardeners (EMG), fewer volunteer opportunities existed for eager volunteers and trainees. A new cohort of EMGs in the Northern Shenandoah Valley (NSV) finished up a hybrid class offering that turned all virtual due to the pandemic. Seeking to fulfill their program requirement to give back to the community with 50 volunteer hours, minimal opportunities existed in 2020. These restrictions continued in 2021 and canceled the annual seed exchange typically held by NSV EMGs at Blandy Experimental Farm (<http://nsvmga.org/events/seed-exchange/>).

In 2021, EMG volunteers worked to organize and establish seed lending libraries with several of our community libraries in the Northern Shenandoah Valley. EMG volunteers held virtual lessons to train one another about seed saving techniques, and EMGs collected seeds from their home gardens to provide to the newly established seed lending libraries. The details and public resources are communicated here: <http://nsvmga.org/programs/seed-lending-library/>.

As the public libraries opened back up in 2021 and 2022, a total of six seed lending libraries were developed across the Northern Shenandoah Valley.

- Clarke County Library, 101 Chalmers Court, Suite C, Berryville, VA 22611
- Bowman Library, 871 Tasker Road, Stephens City, VA 22655
- Handley Library, 100 West Piccadilly Street, Winchester, VA 22604
- Page Public Library, 100 Zerkel Street, Luray, VA 22835
- Shenandoah County Library, 514 Stoney Creek Blvd., Edinburg, VA 22824
- Samuels Public Library, 330 E Criser Road, Front Royal, VA 22630



In 2022, 14 EMG volunteers contributed 142 volunteer hours towards the efforts of saving, sorting, and packaging seeds to distribute through the libraries. Public lectures were offered at the libraries to educate the public on seed saving practices and how to utilize the lending library. 388 community members reported taking advantage of the libraries and over 5,000 seed packets were distributed across the six locations. These libraries provided community members with ornamental, herb, and vegetable seeds and the opportunity to grow some of their own fresh fruits and vegetables.

These efforts have increased geographical accessibility and expanded the timeframe to year-round opportunities in the NSV. The lending library that exists at the Handley Library in Winchester is accessible by public transportation.



Virginia Cooperative Extension Master Gardener Program Northern Shenandoah Valley

WHAT IS THE EXTENSION MASTER GARDENER PROGRAM?

Mission: Sharing Knowledge and Empowering Communities
Extension Master Gardeners (EMG) are trained volunteer educators who work within their local communities to promote sound horticultural practices. The Extension Master Gardener program delivers the horticultural resources of Virginia's land-grant universities: Virginia Tech and Virginia State University.

Five Year Impact: 2018-2022 Northern Shenandoah Valley

147 Master Gardener Volunteers
20 Master Gardener Trainees
14 Emeritus Master Gardeners



WHO DROVE
340,506 miles

AND MADE



1,431,118 educational
contacts



CONTRIBUTING A TOTAL OF

72,381 volunteer and continuing VALUED AT education hours

\$2,070,455.64*

TO CLARKE, PAGE, FREDERICK, SHENANDOAH, AND WARREN COUNTIES

*Based on Independent Sector Value of Volunteer Hours by State by Year

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Presenting Your Best in Shenandoah County



Youth need to learn to organize thoughts and ideas and express themselves clearly and effectively when speaking and writing. Communication skills are critical to success in the workplace and are ranked first among a job candidate “must have” skills and qualities, according to a 2010 survey by the National Association of Colleges and Employers. The Virginia Standards of Learning for Public School systems has included presentations, demonstrations, and public speaking as skills that students need to achieve.

Shenandoah County 4-H leaders and 4-H All Stars worked with their local 4-H'ers to learn about preparing and giving an oral presentation and/or speech. Youth prepared and gave their presentations/speeches first at the club level and some progressed to the County, District and State level of competition where they were judged and ribbons awarded.

The following number of 4-H'ers competed in the County 4-H Contests in these categories:

- Presentation – 4
- Public Speaking – 6
- Extemporaneous Speaking – 3
- Science Fair – 2
- Table Setting – 3



Six different clubs were represented. Fifteen 4-H All Stars assisted with, judged, and provided leadership for the County 4-H Contest Day. The Presentation Contest evaluations indicated that 80% of 4-H'ers participating in the program increased their ability to develop a main idea into step-by-step instructions and 100% improved their public speaking skills to some extent.



Four 4-H'ers advanced to the District 4-H Contest Day, with four volunteers serving as judges or room chairs. Six senior 4-H'ers competed in the State 4-H Presentation Contests with one winning the State 4-H Table Setting Contest. Two local All Stars served as state judges.

Meet the Staff Serving the Northern Shenandoah Valley

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