

Northern Shenandoah Valley 2024 Annual Report

VIRGINIA COOPERATIVE EXTENSION

Clarke County

Frederick County

Page County

Shenandoah County

Warren County

City of Winchester

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Noteworthy Metrics for 2024 Programming



1,551 youth and adults
certified, recertified, or
credentialed for
workforce professional
development and
through workplace
readiness programs*



\$1,285,664 value of
volunteer time
contributed*



1,916,656 virtual
educational contacts*



812 volunteers*



4,608 youth enrolled
in 4-H*

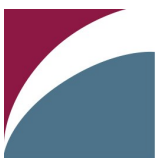


15,322 face-to-face
youth educational
contacts*



34,761 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

Clarke County

524 Westwood Drive
Berryville, VA 22611
clarke.ext.vt.edu
540-955-5164



Community Voices

"4-H green runs through our veins. No other youth organization teaches dedication and perseverance, teamwork and accountability, leadership and citizenship, and sportsmanship and humility the way 4-H does. 4-H grows leaders who will undoubtedly make a difference, and we are blessed to be part of that here in Clarke County."

Jessica Vincent

4-H Leader and Parent

\$280,000

**Total Sales from 4-H
Livestock Projects Sold at
the 2024 Clarke County Fair**

Partners for Solutions



"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. The five-year total pesticide license recertifications offered through VCE NSV programs is 584 private applicators and 964 commercial applicators."

Mark Sutphin
Agent



Seed Lending Library at Handley Regional Library in Winchester.

Sharing Knowledge

In 2023, 104 Extension Master Gardener volunteers contributed 1,171 volunteer hours towards the efforts of saving, sorting, and packaging seeds to distribute through the libraries and annual seed exchange event at Blandy Experimental Farm. Public lectures were offered at local libraries to educate the public on seed saving practices and how to utilize the lending library. Over 1,188 community members reported taking advantage of these seed acquisition opportunities and over 6,000 seed packets were distributed through the seven locations.

These libraries and the seed exchange event 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 time-frame to year-round opportunities in the Northern Shenandoah Valley.

Frederick County and City of Winchester

107 N. Kent Street
Winchester, VA 22601
frederick.ext.vt.edu
540-665-5699



Community Voices

"The most helpful part of today's workshop was learning all about and how to utilize the Pest Management Guides that are available through VCE. These are extremely useful resources that I can access every day to find best management practices for our pest problems."

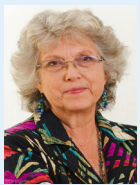
Participant

Commercial Pesticide Safety Program

931

Frederick youth who participated in real-world financial simulations

Partners for Solutions



"Over the past five years, 163 Extension Master Gardeners serving the Northern Shenandoah Valley (Clarke, Frederick, Page, Shenandoah, and Warren counties and Winchester) logged 73,930 volunteer hours and reached 2,219,664 educational contacts. These numbers speak volumes, but it is really about the changed lives, improved environment, and healthy communities that these numbers represent."

Joanne Royaltey

Program Associate



Teen counselors support and lead youth at Frederick-Page 4-H Camp.

Sharing Knowledge

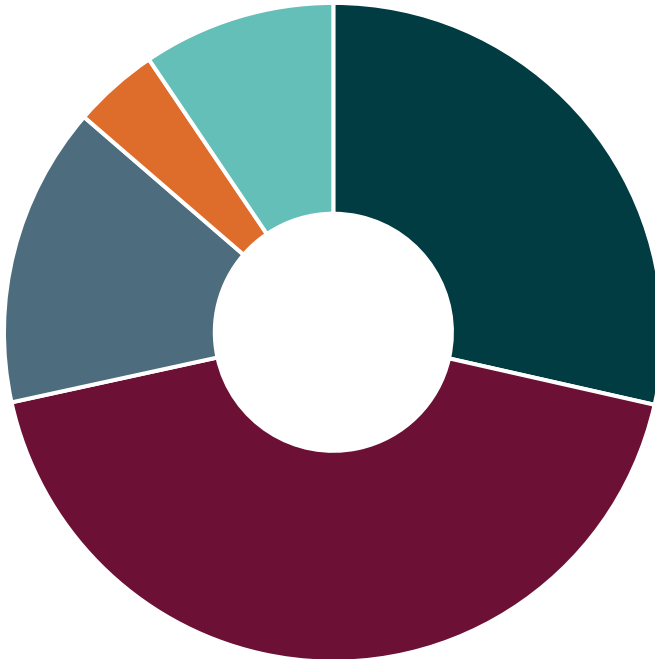
The Frederick County 4-H program empowers teens to become leaders and community advocates. Through the 4-H Teen Council, members organize events, lead service projects like hat and glove drives, and build connections with elderly residents through holiday activities.

At Frederick-Page 4-H Camp, 27 youth served as counselors, guiding younger campers and modeling responsibility, and at 4-H Horse Day Camp, counselors taught equine skills, reinforcing 4-H values.

In 2023 alone, Frederick County 4-H teens volunteered over 4,100 hours, valued at nearly \$62,000, which showcased their commitment to community impact. Their involvement builds skills in leadership, teamwork, and public speaking, preparing them for the future and proving the lasting value of 4-H's investment in youth development. These experiences create well-rounded, service-oriented leaders equipped for tomorrow.

Frederick County and City of Winchester

Funding by Source



29% State

43% Local

15% Federal

4% Grants

9% Other

Total Funding: \$763,811

\$1.32

return on investment
for every dollar
invested by Frederick
County and City of
Winchester

\$992,087

Value of extension
volunteer hours in
Frederick County
and City of
Winchester

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

Page County

215 W. Main Street, Suite C
Stanley, VA 22851
page.ext.vt.edu
540-778-5794



Community Voices



"4-H has taught me many lessons over the years and helped to shape me into who I am today. I love to help the younger kids and

see them grow to love this organization just as much as me."

Lydia Parlett

Former member and current volunteer, 4-H

1,016

Youth enrolled in Page County 4-H

Partners for Solutions



"I am leading a multi-state effort to develop solutions to a pest problem that is inhibiting farmers from using no-till technology. Farmers prefer to plant their crops using no-till instead of plowing and/or disking because it is more profitable and is better for soil health and water quality."

Bobby Clark

Agent



Extension Agent Elizabeth Baldwin presents at a well water clinic results meeting.

Sharing Knowledge

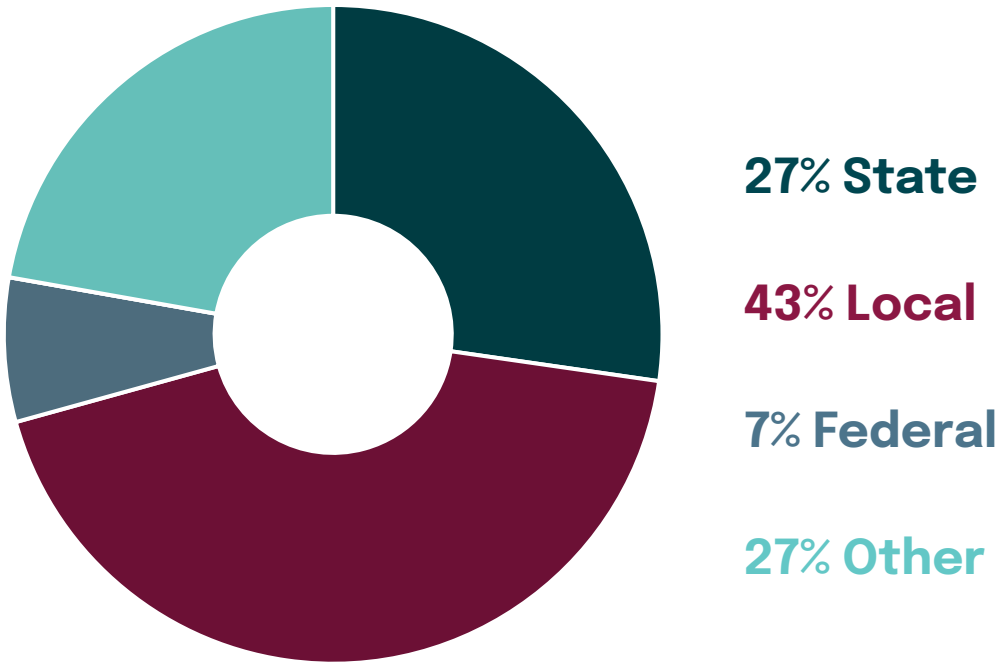
The 2023 community needs survey identified water quality as the top issue in Page County, where over 75% of residents depend on private water supplies. Insufficient knowledge and lack of regular testing can pose health risks for these families.

To address this, Extension agents engaged in the Virginia Household Water Quality Program, offering affordable, confidential water testing, assistance interpreting test results, and guidance on resolving water issues. This program is important for maintaining the health of families, pets, and livestock.

Since 2021, participation in the program has increased by 168%, with over 140 water samples analyzed. Notably, 57% of participants implemented recommendations, and all reported gaining valuable insights to manage their water systems effectively. One participant said, "Armed with the testing results, I can make my well water safer for my family."

Page County

Funding by Source



Total Funding: \$317,993

\$1.30

return on investment
for every dollar
invested by Page
County

\$148,875

Value of extension
volunteer hours in
Page County

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



"As a youth, 4-H became one of the most important organizations I've been a part of. It has been a path where my daughters learned the importance of giving back to their community. 4-H has taught them many important things, from leadership to empowering them with the skills to lead for a lifetime."

Hope Matthews

Virginia 4-H All Star and Leader St. Luke-Saumsville 4-H Club/Cloverbud

3,060

SNAP Eligible Customers Served

Partners for Solutions



"Non-farming landowners lease 139,000 acres of Northern Shenandoah Valley farmland to farmers. The Shenandoah County Sustainable Farm Demonstration showcases how landowners can achieve their goals through successful lease relationships. This effort has trained over 1,200 people, many of whom lease land to farmers."

Bobby Clark
Agent



Produce baskets provided by Shenandoah Valley Extension for customers at the Jon Henry General Store.

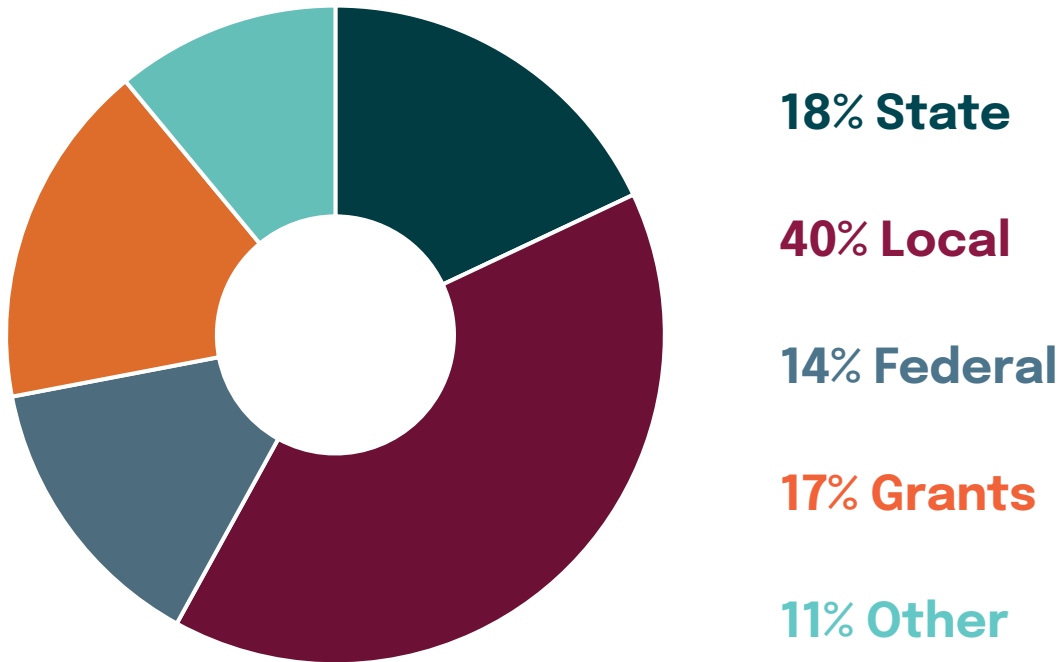
Sharing Knowledge

The Jon Henry General Store is an important food access point for the greater New Market area. In Shenandoah County, 12.6% of residents have income levels at or below 200% of the federal poverty level, and 5,139 people are participating in SNAP benefits.

In past years, Extension helped the store participate in the Virginia Fresh Match incentive program, which offers 50% off the price of fresh fruits and vegetables for SNAP-eligible customers. More recently, Extension secured mini-grant funds to highlight fruits, vegetables, and other healthy foods available at the store by distributing 2,000 postcards, adding 50 produce baskets, developing a nutrition corner and healthy recipe display, and delivering on-site nutrition education and food demonstrations. Over the past year, the Jon Henry General Store has served 3,060 SNAP/EBT customers.

Shenandoah County

Funding by Source



Total Funding: \$609,039

\$1.48

return on investment
for every dollar
invested by
Shenandoah County

\$132,285

Value of extension
volunteer hours in
Shenandoah County

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

Warren County

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

Community Voices



"Corey Childs was an invaluable resource for our farm. His step-by-step guidance and genuine interest in my honeybees made a lasting impact. With each question, he offered reassurance, commending our contributions to agriculture. He embodied a spirit of service and love for agriculture, while always planting seeds in every sense."

Kaylee Richardson

Owner
The Honeystead

\$7,440

**Donations received for 4-H
Camp scholarships**

Partners for Solutions



"Financial stress can put individuals in recovery from substance use disorder at risk for returning to use. Our new eight-session Recovering Your Finances course is helping people in recovery build financial capability by teaching them about topics like budgeting, credit, banking, and savings, which in turn benefits the whole community."

Karen Poff

Agent



4-H campers prepare to practice their new high ropes skills with support from teens.

Sharing Knowledge

In summer 2024, 97 campers, 36 teen counselors, and nine adult volunteers from Warren County attended the Northern Virginia 4-H Overnight Junior Camp for five days. Campers experienced the great outdoors, made new friends, learned new skills, became more independent, and spent time with positive role models.

Scholarship contributions from nine donors totaled \$7,440 and enabled 29 campers and two teen counselors to receive partial or full scholarships. Because of these generous donations, Warren County 4-H is able to provide any youth who wishes to attend camp with the opportunity to gain skills and leadership experiences that will last a lifetime.

Warren County

Funding by Source



41% State

29% Local

17% Federal

13% Other

Total Funding: \$460,382

\$2.46

return on investment
for every dollar
invested by **Warren
County**

\$37,419

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

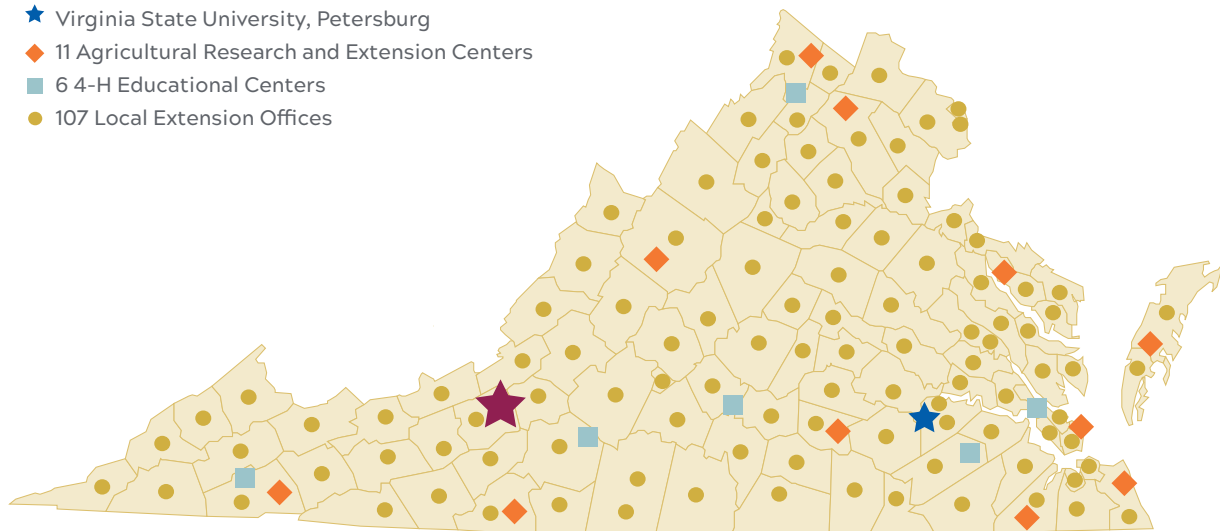
At Virginia Cooperative Extension, we take concrete action that advances the wellbeing of all Virginians. Whether we're building a more resilient food system, supporting local economies, or mentoring youth, we help manage our natural resources, bridge access to knowledge, and shape a brighter future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

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

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

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

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

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



As part of its contributions to the commercial fruit industry, the Alson H. Smith Jr. Agricultural Research and Extension Center is a collaborator on a \$475,000 grant from the USDA's National Institute of Food and Agriculture's Agriculture and Food Research Initiative to utilize canines to combat the invasive spotted lanternfly. Mizuho Nita, an associate professor of plant pathology, operates a grape disease management and Extension lab at the Alson H. Smith Jr. AREC, and he works closely on the project by sending egg samples to Texas Tech University's Canine Olfaction Research and Education Laboratory to conduct multiple behavioral and olfactory research studies.

A benefit of this program is to preserve the quality of grapes and the wines they produce by reducing the need to overuse insecticides to stop the spotted lanternfly. The Alson H. Smith Jr. AREC examined the efficacy of detection dogs to locate invasive insects and diseases in vineyards. Dogs identified spotted lantern fly eggs with 95 percent accuracy and hopes to use detector dogs to scout for spotted lanternfly eggs on shipments entering areas without established populations of this invasive insect. As the dogs become more adept, they will be challenged to detect additional harmful predators, such as powdery mildew.

Mizuho Nita, associate professor of plant pathology (grapes and viticulture), works in the vineyard at the Alson H. Smith Jr. Agricultural Research and Extension Center in Winchester.

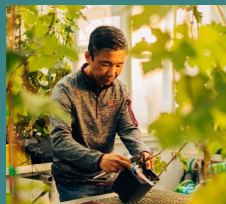
PARTNER WITH US

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
- Enology

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

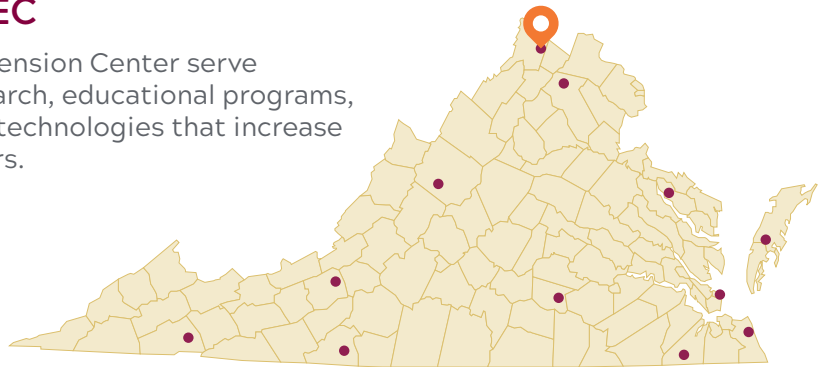
- Virginia Agribusiness Council
- Wine Industry
- Apple Industry
- Virginia Department of Agriculture and Consumer Services

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 they 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.



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, sex (including pregnancy), gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, military status, or any other basis protected by law.



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



"One of our community's most beloved assets is the Northern Virginia 4-H Center. Front Royal's Advisory Committee for Environmental Sustainability continues to partner with the center's director, Katie Tennant, in one successful project after another. From new trails to new sports facilities, this collaboration is bearing fruit that is truly improving our community's access to the great outdoors."

From new trails to new sports facilities, this collaboration is bearing fruit that is truly improving our community's access to the great outdoors."

Justin Proctor

Chair

Front Royal Advisory Committee for Environmental Sustainability

2,538

Number of youth
empowered through
camp/programs

Partners for Solutions



"One of the ways the Northern Virginia 4-H Educational and Conference Center partners with the community is through our partnership

with the Hope and Rest Temporary Shelter. Shelter residents are housed in a facility lacking showers, so they bring the residents up to the 4-H Center to use our showers."

Katie Tennant

Director

Northern Virginia 4-H Educational and Conference Center



Participants at theme day at Camp Fantastic.

Sharing Knowledge

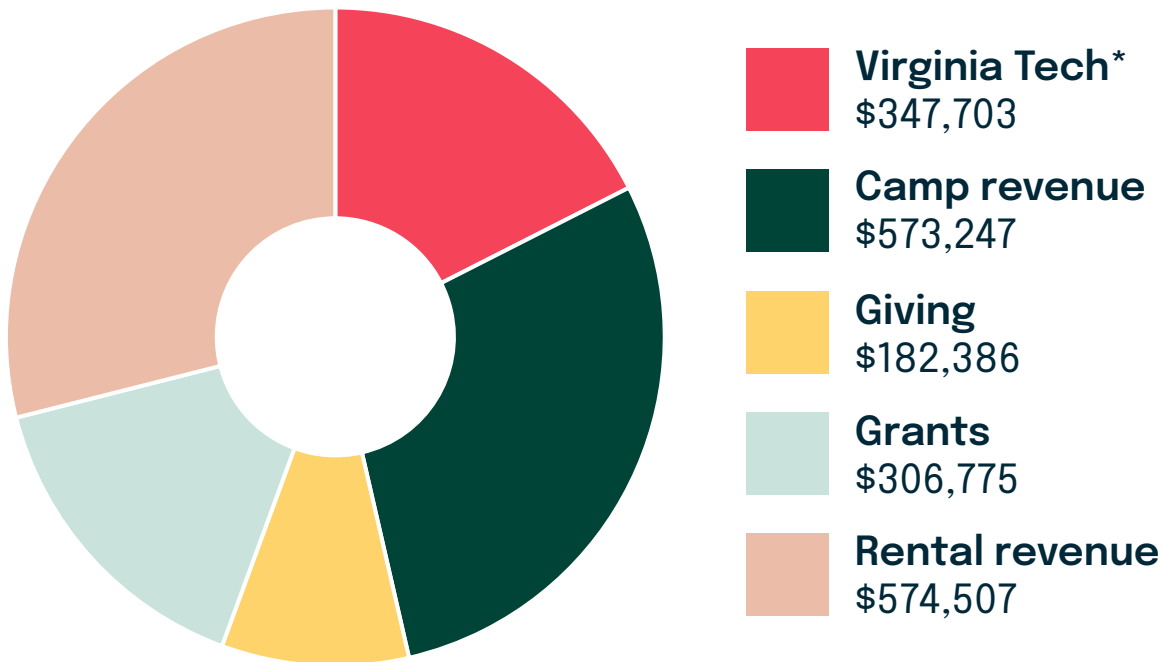
The benefits of camp for children are especially true for those facing pediatric cancer. Despite their limitations, these children want to be treated the same as healthy children, with opportunities to run, play, swim, and enjoy being with other kids. Camp has been shown to reduce anxiety and improve self-esteem among pediatric patients and survivors.

The Northern Virginia 4-H Educational and Conference Center hosts two programs annually for this audience, both sponsored by the Mid-Atlantic nonprofit, Special Love. Camp Fantastic is a one-week adventure in August for patients and survivors ages 7 to 17, and Octoberfest Family Weekend is a two-day fall retreat for their families. Both events provide fellowship, fun, and learning opportunities, as well as an introduction to Special Love's year-round community of support.

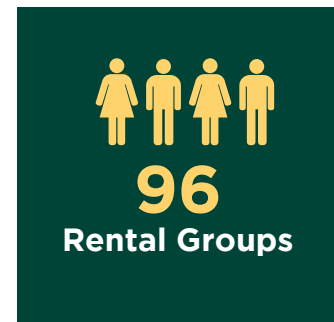


Northern Virginia 4-H Educational and Conference

Funding by Source



*from Virginia Tech for salaries, phones, internet, and administrative funds



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

Reaching SNAP-Eligible Customers Through the Shop Smart, Eat Smart Healthy Retail Initiative

Submitted by: Kelsey Kline, SNAP-Ed Extension Agent

Jon Henry General Store is an important food access point in the greater New Market area. According to Feeding America, 13.6% of residents, or 6,020 people, are food insecure, and 74% of residents live below the SNAP threshold of 200% in Shenandoah County. In December 2024, there were 5,190 people participating in SNAP in Shenandoah County. The USDA defines food insecurity as “the lack of access, at times, to enough food for an active, healthy life”. The lack of availability and visibility of healthy foods in grocery stores are often barriers for households with limited resources in procuring nutritious food. The Shop Smart, Eat Smart initiative uses behavioral economic principles to drive the demand for and increase the visibility of healthy food options. Strategies for the program include in-store marketing, technical assistance with environmental changes, direct education, and customer engagement. Jon Henry General Store participates in Virginia Fresh Match (VFM), an incentive program that provides 50% off fruits and vegetables for SNAP/EBT customers.



In past years, Extension assisted the store to first participate in the VFM incentive program. In 2024, a PSE mini grant was received through the Family Nutrition Program (FNP) in partnership with Jon Henry General Store. Mini grant funds were used to purchase materials to highlight fruits, vegetables, and other healthy foods available at the store. It also funded the marketing of SNAP/EBT and VFM through printed postcards distributed to 2,000 eligible households. Promotion through radio and social media boosted posts had a reach of 37,546 people. Mini grant funding also provided 50 new produce baskets, shelves for a nutrition corner, a healthy recipe display with printed recipes for customers, and onsite nutrition lessons for customers with food demonstrations. The Market Basket Assessment Tool (MBAT) had a score of 30/40 in September 2023 and the MBAT score was 29/40 in November 2024.

Over the past year, the Jon Henry General Store has served 3,060 SNAP/EBT customers. In addition, the store had \$42,452.75 in VFM redemption from January-October 2024. This number is slightly less than the previous year. However, contributing factors, such as the end of the P-EBT program, may have affected overall SNAP/EBT and VFM redemption rates. The store had a spike in SNAP/EBT sales with the new SUN Bucks issuance.



Through onsite nutrition education and food demonstrations, 48 store customers were reached, and the store donated fresh fruits and vegetables for the demonstrations. One participant shared “My family is trying to find new sides to go with our meals, so I’m going to try this!” Jon Henry, owner of the Jon Henry General Store stated, “Customers have really enjoyed VA FNP programs at the shop. Some come and wait 15 mins to just be first in line for tastings and samples. It has been a real pleasure working with them. It is nice for them to do the lifting on this education component for you.” In reference to the in-store recipe display, he stated, “I’m shocked with the recipe rack’s popularity! We need to restock it so often!” Future strategies include encouraging the store to add more low-fat dairy products, lean meats, and more options for dried beans, seeds, nuts, and nut butters.

Webinar Serves as a Catalyst for “Life-Changing” Public Service Student Loan Forgiveness

Submitted by: Karen Poff, Family Financial Management Extension Agent

Student loan borrowers who work for the government or nonprofit organizations can be eligible for Public Service Loan Forgiveness (PSLF). Those who qualify for PSLF and make 120 on-time payments can have their remaining student debt balance paid in full by the federal government. In October 2021, the Department of Education temporarily waived certain requirements for the Public Service Student Loan Forgiveness program, making many public service workers retroactively eligible for loan relief. This waiver was set to expire on October 31, 2022, creating a risk that many eligible beneficiaries would not access benefits.

In early October of 2022, as one of its “First Fridays” webinars, Virginia Cooperative Extension invited a Maryland Extension colleague to discuss the Public Service Student Loan Forgiveness program, as well as the waiver that might make some people immediately or quickly eligible for forgiveness. The workshop offered guidance for participants, including an outline of the numerous rules to follow and details that would be critical to achieving successful forgiveness. Sixty-four people registered for the program and received written information on the topic, with 42 people participating live.

A two-year follow-up evaluation of the program revealed that the webinar had significantly benefitted at least eight of the people who had attended. Seven (88%) of the eight who responded to the survey indicated that they had taken action regarding their student loans following the webinar. Seven (88%) had already completed the process of having their loans forgiven, while one was still working on it. The total amount of student loan debt that had already been forgiven was \$390,000 or an average of \$55,714 per person. One person who had \$98,000 of student loans forgiven commented, *“The webinar was very informative and took a lot of the legwork out of the equation. I was able to contact the correct department and have a smooth transition with being successful in having my loans forgiven”*. Another person who had received over \$100,000 in forgiveness indicated that the results were life changing. She had not known that she was even eligible to apply, much less have ALL her remaining student loans forgiven!

UNIVERSITY OF MARYLAND EXTENSION

DOROTHY NICKOLS, MPH, AFC
UNIVERSITY OF MARYLAND EXTENSION

TAKE ACTION, DON'T LOSE QUALIFICATION FOR PUBLIC SERVICE STUDENT LOAN FORGIVENESS

Public Service Loan Forgiveness is for anyone who:

- Works for a qualifying employer (non-profit or government)
- Has made 120 qualifying loan payments
- Does qualifying work (30 hours or more per week)
- Has a qualifying repayment plan

WHO IS IT FOR?

Anyone working for a recognized non-profit organization, or any government organization, including Extension personnel

WHAT STEPS DO I NEED TO TAKE TO QUALIFY?

- Choose the right payment plan and document carefully

What Actions do I need to Take to Maintain Qualification for Public Service Loan Forgiveness?

- Choose the right payment plan (income based)
- Beware of loan consolidation. This re-starts the clock
- Maintain employment documentation
- Make payments on time

More Information about who qualifies!
Follow the QR code or this link: go.umd.edu/pslf_who

More Information about action steps!
Follow the QR code or this link: go.umd.edu/forgive

Volunteer-Led Nutrition Education Promotes Healthy Eating and Physical Activity Among Vulnerable Youth

Submitted by: Kelsey Kline, SNAP-Ed Extension Agent

According to Feeding America, over 15% of children in Shenandoah and Page Counties are experiencing food insecurity. All schools within these two counties have 50% or more students eligible for free and/or reduced school meal programs. In 2022, 6.7% of children in Fauquier County were considered food insecure. Virginia's state average of childhood food insecurity is 13.6%. The Virginia Cooperative Extension Family Nutrition Program's (FNP) mission is to help limited-resource individuals and households manage their available food resources, make healthier food choices, and increase physical activity levels. To prevent the risk of negative health outcomes due to poor nutrition and lack of physical activity, it is important to introduce nutrition education and promote physical activity at a young age.

The Virginia Cooperative Extension Family Nutrition Program's volunteer-led nutrition education uses a train-the-trainer model to expand the reach for direct education of youth participants from limited income households across the state. This complements policy, systems, and environmental change initiatives in the schools. Teachers and other community volunteers are trained to deliver evidence-based curriculum to eligible youth in Pre-K through grade 12. Students receive nutrition education lessons within a classroom, or other settings, engage in food experiences or tastings, physical activity, or arts and crafts. Nutrition resources are distributed to children and families, including educational materials, healthy recipes, student reinforcements, and parent newsletters. Nineteen volunteers were trained in seven schools or community settings in 2024. Volunteers received training in the following youth curricula: Literacy, Eating, and Activity for Preschoolers (LEAP), Pick a Better Snack (PABS), Choose Health, and Teen Cuisine.

A total of 43 volunteer hours were recorded by seven volunteers in 2024. This results in monetary contribution totaling \$1,426. (\$33.49/hour). Volunteers reached **431** youth within Fauquier, Page, and Shenandoah Counties. One volunteer with Healthy Families shared, *"Families are having lots of fun with LEAP activities, and learning good nutritional foundations."* She included a photo of bean sprouts that one of the families was growing in their windowsill from the *One Bean* lesson.

Many volunteers were trained in Fall 2024 and are now delivering nutrition education to eligible youth in 2025. Outreach and promotion for volunteer-led programming will continue, with the goal of reaching as many eligible students as possible through evidence-based nutrition education. Six volunteers are participating in policy, systems, and environmental changes by layering school wellness initiatives, such as physical activity breaks or mindfulness activities in the classroom, along with youth nutrition curriculum. These activities increase opportunities for wellness and help students reach the recommended amount of physical activity per day.



Northern Shenandoah Valley Pesticide Safety Education Program

Submitted by: Mark Sutphin, Horticulture Extension Agent

The federal and state pesticide laws require applicators to be certified to use restricted use pesticides. In addition, Virginia 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 Integrated Pest Management (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 (NSV).

In January 2024, Planning District 7 (PD7) Agriculture and Natural Resource (ANR) Agents offered the annual commercial pesticide recertification workshop to 203 participants at West Oaks Farm Market in Winchester. Due to the proximity of PD7 to other states, this offering is certified by Virginia, Maryland, West Virginia, DC, and Pennsylvania for recertification. In March, a full-day core training was followed by offering commercial, private, and registered technician examinations at the New Market Fire Hall for 23 participants. In Fall 2024, agents conducted four Virginia Department of Agriculture and Consumer Services (VDACS) approved re-certification programs in pesticide safety and (IPM) in Winchester, Woodstock, Front Royal, and Stanley. Additionally, private applicator recertifications were offered by PD7 Agents at the Winchester Area Fruit School and the Mid Atlantic Fruit and Vegetable Conference in Hershey, PA in February.



During 2024, 91 private pesticide applicators and 214 commercial pesticide applicators were trained for recertification in PD7. The five-year total pesticide recertifications for license holders offered through Virginia Cooperative Extension NSV programs is 524 private applicators and 952 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.



Consumer Horticulture and Environmental Programming in the Northern Shenandoah Valley

Submitted by: Joanne Royalty, Consumer Horticulture and Invasive Species Program Associate

For over 40 years, Extension Master Gardeners (EMGs) have assisted state and county faculty in providing current, relevant, research-based, and timely responses to Virginia's homeowners who need assistance with their home landscapes. As personnel resources diminish, we rely more heavily on our volunteers to help deliver quality programming and services to our constituents. The work of EMGs is important in multiplying the efforts of our paid faculty as they impart best practices to homeowners wishing to manage their landscapes in sustainable and environmentally friendly ways. In the Northern Shenandoah Valley (NSV), there is a population of over 229,000 individuals residing in the counties of Clarke, Frederick, Page, Shenandoah, Warren and the City of Winchester. There has been an active network of EMGs in the NSV since 1993.

In 2024, the annual EMG training in the NSV was offered to 17 new EMGs. The annual seed exchange at Blandy Experimental Farm drew 382 participants, and the 2024 NSV Symposium: Your Backyard, Our World was held at Laurel Ridge Community College offering 250 attendees home horticulture education. GardenFest at Belle Grove was an incredible success. The 14th annual plant festival had 1,162 participants attending workshops, children's activities, educational booths, and plant sales.

In 2024, EMGs participated in four radio interviews, one television interview, and ten interviews for newspaper articles and other printed publications. NSV EMGs work to conduct 50 different educational programs, projects, and events in-person and virtually with a goal of extending best management practices and knowledge into the local communities. Significant effort was made to educate via Facebook (<https://www.facebook.com/NSVMGA>), a quarterly newsletter (<http://nsvmga.org/newsletter/>), and via the local association website (<http://nsvmga.org/>).



Seventeen trainees participated in 2024 EMG trainings and joined forces with the 153 active EMGs, Emeritus, and Interns in the NSV. EMGs reached 1,782,074 contacts in 2024 and reported 14,765 volunteer and continuing education hours. This means that collectively, VCE had an additional seven full-time, non-paid, staff disseminating best practices in the NSV. The economic value of the reported volunteer time is \$492,851.36 (based on an hourly rate for Virginia of \$33.38 from the independent sector), a tremendous in-kind contribution, and return on investment to the NSV.

The 5-year figures for the five-county region include reaching 3,740,968 educational contacts through 73,109 volunteer hours at a value of \$2,267,375.51.

These numbers speak volumes, but it is really about the changed lives, improved environment, and healthy communities created by the efforts that these numbers represent. Extension volunteers help train and empower youth to grow their own fruits and vegetables, they provide community members with best management practices for residential horticulture activities, they offer appropriate pest identification to reduce misuse and overuse of pesticides and fertilizers, and so much more.



Virginia Cooperative Extension

Northern Shenandoah Valley Master Gardeners

Clarke, Frederick, Shenandoah, Page, & Warren

2020 to 2024 Statistics:



153 Extension Master Gardeners



356,597 miles driven



3,740,968 total educational contacts (direct & indirect)



73,110 Volunteer hours



Value of volunteer time:
\$2,267,375.51

Northern Shenandoah Valley Master Gardeners work to build a more resilient community.

Local projects include:

- **GardenFest**, an all-day gardening festival at Belle Grove Plantation. Plant sales, children's activities, lectures and more.
- **Youth Gardening Programs**, numerous activities across all five counties involve youth: 4-H day camps, Junior Master Gardener (JMG) homeschool sessions, JMG in-school sessions and library presentations, among others.

- **EMG Info Booths**, volunteers assist individuals with home horticulture questions at farmers markets, fairs, and other festivals as well as staff "Ask a Master Gardener" Help Desks in the VCE offices.

- **VCE NSV EMG Seed Exchange and Seed Lending Libraries**, an annual seed in the region and manage seed lending libraries in NSV community libraries.

- **Demonstration Gardens**, volunteers manage several demo gardens and teach programs at various locations throughout the NSV: community gardens, children's gardens, rain gardens, pollinator gardens, and native plant gardens to name a few.



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

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.

Thriving NSV EMG Seed Lending Libraries

Submitted by: Joanne Royaltey, Consumer Horticulture and Invasive Species Program Associate

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, fewer volunteer opportunities existed for eager volunteers and trainees. A new cohort of EMGs in the Northern Shenandoah Valley 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 (<http://nsvmga.org/events/seed-exchange/>).

The 2023 National Gardening Survey found the following: *“Inflation was a major factor for over half of respondents in planning to increase or decrease their level of participation in lawn and gardening activities. To combat inflation, the most commonly used household practices were using water wisely, buying plants on sale, and growing plants from seeds. Over one-third of households anticipate increasing their spending on lawn and gardening products in 2023 compared to 2022, particularly for food gardening.”*

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 and operate to this day 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 East Criser Road, Front Royal, VA 22630



The annual NSV EMG seed exchange at Blandy Experimental Farm resumed in January 2022. Each year has built on the previous, and the 2025 event, planned for a new more accessible location, is shaping up to be the most successful ever.

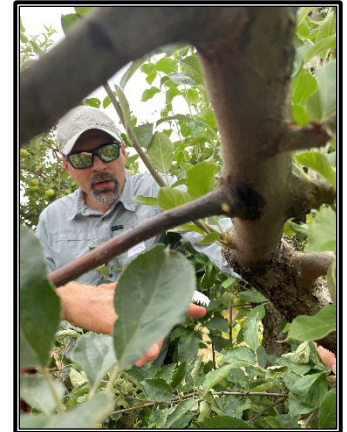
In 2024, 77 EMG volunteers contributed 1,046 volunteer hours towards the efforts of saving, sorting, and packaging seeds to distribute through the libraries and seed exchange. Public lectures were offered at the libraries to educate the public on seed saving practices and how to utilize the lending library. 2,207 community members reported taking advantage of these seed acquisition opportunities, and over 7,000 seed packets were distributed through the seven locations. These libraries and the seed exchange 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.

Record of Impact: Tree Fruit Pathology Program at Virginia Tech's Alson H. Smith Jr. Agriculture Research and Extension Center (AREC)

Submitted by: Srdjan Acimovic, Tree Fruit Pathology Extension Specialist

Tree fruit pathology program at Virginia Tech investigates plant pathogens that threaten tree fruit and specialty crop production in Virginia. Our mission is development and implementation of new disease management practices and digital tools for growers.

My focus topics are research on biology, epidemiology, ecology, genomics, and management of apple pathogens causing bacterial fire blight disease (*Erwinia amylovora*) and apple fruit bitter rot (*Colletotrichum* spp.). Fire blight is causing \$100 M losses and control costs annually on apple and pear, nationwide, and is the top problem for apple growers in Virginia and the U.S. which can kill young and high-density orchard apple and pear trees in just one year. The top fungal disease of apples across the East Coast states and Virginia is apple bitter rot, which causes direct fruit losses from \$276 M to \$288 M annually on the East Coast and in the Mid-West. Growers in Virginia lose between 20–90% of their apple crop annually to this disease and between 2–15% postharvest, while apples are stored in cold storages. Currently, spray materials for management of fire blight and apple bitter rot are either ineffective or becoming increasingly limited. EPA and USDA are re-evaluating their registrations, canceling some materials, and/or severely limiting their use patterns in apple and pear.



In the last three years, the first major response of my program has been that we have developed and evaluated the control efficacy of many market-available and newly developed alternatives for the currently available pesticides against fire blight and bitter rot to replace the ones currently re-evaluated, cancelled, or limited for use. The second major response of my program has been utilizing gene sequencing, phylogeny, and genome sequencing to identify and characterize *Colletotrichum* species that cause apple fruit bitter rot and development and characterization of apple bitter rot resistant *Malus* spp. germplasm available at USDA-Appalachian Fruit Research Station in Kearneysville, WV and at AREC in Winchester, VA. The third major response of my program has been the planting of an orchard of elite *Malus* spp. accessions i.e. germplasm that contain genetic resistance to *Colletotrichum* spp. infection on fruit.



The first batch of major accomplishments of my program are determination that bioengineered enzymes from our collaborator at University of Virginia, which degrade biofilm and cell wall of bacteria, are effective in control of blossom blight caused by fire blight bacterium. We further determined that Tidal Grow Spectra, a biorational fungicide based on chitosan, as well as several new synthetic fungicides (Aprovia, Omega) are very effective for apple bitter rot control and can be incorporated in spray programs for commercial apple production. Identifying and implementing these alternatives is of high importance right now to prevent the development of fungicide resistance in *Colletotrichum* species infecting Virginia apples. The second major accomplishment of my program was sequenced, annotated, analyzed, and published nine *Colletotrichum* genomes of isolates infecting apple fruit that enabled descriptive genomics insights for future research on designing and optimizing RNA interference (RNAi) against these pathogens. The third major accomplishment of my program was the development of

nine new, species-specific Real-Time PCR diagnostic assays for identification, detection, and quantification of nine *Colletotrichum* species causing apple fruit bitter rot in the Mid-Atlantic U.S. Due to their close relatedness, rapid identification of these species is difficult and time-consuming but is highly necessary for tracking and preventing fungicide resistance development and the introduction of new species in commercial apple orchards in Virginia.

Statewide Impact Statement: Virginia Household Water Quality Program (VAHWQP)

Submitted by: Erin Ling, Water Quality Extension Specialist

Nearly one fifth (19%) of Virginia's population (1.6 million people) rely on private water supply systems, such as wells, springs, and cisterns for their household water. In the U.S., municipal water supplies are regulated under the Safe Drinking Water Act by the Environmental Protection Agency, which mandates regular testing and water treatment. Homeowners who use private water supplies are completely responsible for routine testing, system maintenance, and addressing any water quality problems, should they exist. Lack of knowledge about private water supply management and water quality issues may lead to system neglect and a lack of regular water testing, which can have serious implications for water quality, longevity of the water supply system, and ultimately, the health and safety of the families who rely on these systems.



The Virginia Household Water Quality Program (VAHWQP) provides confidential water testing and educates private water supply users through county-based drinking water clinics. With Virginia Cooperative Extension Agents, trained through the Virginia Well Owner Network (VWON), faculty in Biological Systems Engineering (BSE) coordinate clinics in at least 60 counties per year. At a clinic kickoff meeting, participants receive water sampling kits and instructions. A day later, participants bring their water samples to a central location in the county. The samples are transported to Virginia Tech for analysis. Samples are analyzed for 12 chemical constituents and for the presence of total coliform and E. coli bacteria. Four weeks later, test results are sent to participants either via email or USPS or made available during a meeting with the Extension Agent. An explanation of individual results and possible solutions to water problems, including water treatment options, are discussed with clinic participants either one-on-one with the program coordinator or Extension Agent or at an in-person or virtual interpretation meeting. This interpretation meeting is a critical value-added component unique to VAHWQP drinking water clinics.

Ninety drinking water clinics were held serving participants from 91 counties in 2024. This year, 3,760 samples from private water supplies were tested; our busiest year ever. The sampled systems provide water for 9,270 Virginians. Statewide, in 2024, about 39% of all samples did not meet the EPA standard for public systems for total coliform bacteria, 5% were positive for E. coli, and 6% of samples exceeded the recommended level for lead in water that had been stagnant in the plumbing system for at least six hours. Based on online clinic evaluations (total RR = 23%), 94% stated they believed they understood their test results. Most results were returned via email, but some agents provided in-person or zoom interpretation meetings, and others used our recorded interpretation meeting presentation (<https://tinyurl.com/jyccj2bc>).

We asked about recommended actions already taken and planned after clinic participation. Actions already taken since clinic participation in 2024 included shock chlorination (18 %), followed by installing or improving the function (27%) of a water treatment device, using bottled water (12%), performing maintenance on well, pumping the septic system or moving a source of potential contamination (8%), and pursuing additional testing (9%). Nearly half of survey respondents shared more detailed actions they already took. The most common recommended actions planned in the year following testing were improving function of treatment devices or installing new treatment (32%), seeking additional testing (22%), shock chlorination (14%), or using bottled water (6%). Nearly 70% of clinic participants report having never tested their water previously (37%) or testing it only once before (31%). This year we asked about past participation in a VAHWQP drinking water clinic: 51% were new to the program, 22% participated once before, 21% 2-4 times, and 5% five or more times.

Participation in a VAHWQP clinic is designed to encourage subsequent, annual testing using a commercial lab. If delivered commercially, the value attributed to the VAHWQP drinking water clinics offered in 2024 would be \$1,203,200. The cost for the 2024 participants was \$263,200, a cost savings of approximately 78%. Furthermore, donations or grant funding were used to subsidize water testing for over 600, or one-fifth of participants. In 2024, over 14,000 unique visitors, 90% of which were new to the site, used VAHWQP's website, www.wellwater.bse.vt.edu, which was revised to be more helpful to the public in 2024. We added questions to the landing page, directing visitors to resources, and the Contact Us form, which resulted in an increase of emails from the Contact Us form of about 50%. A video, "What to Know When Purchasing a Home With a Well and Septic System" (<https://www.youtube.com/watch?v=rjBbrlls9HA>), created in 2019 in collaboration with Virginia Department of Health and posted on YouTube has received over 72,000 views. VAHWQP's annual report infographic is found here: <https://create.piktochart.com/output/a8c1006163a4-2024vahwqp-annual-report>. Ongoing research collaborations with VAHWQP data and volunteer past participants are focused on manganese, PFAS (per and polyfluoroalkyl compounds), and other microbial contaminants found in private water supplies. VAHWQP received some nice press coverage in 2024 including: <https://news.vt.edu/articles/2024/04/ext-water-quality.html>; https://news.vt.edu/videos/k/2024/07/1_nt29vfk7.html; <https://vrha.org/2024/07/22/rhv-120/>; <https://www.theroanokestar.com/2024/07/30/va-tech-researchers-on-quest-for-clean-water/>.



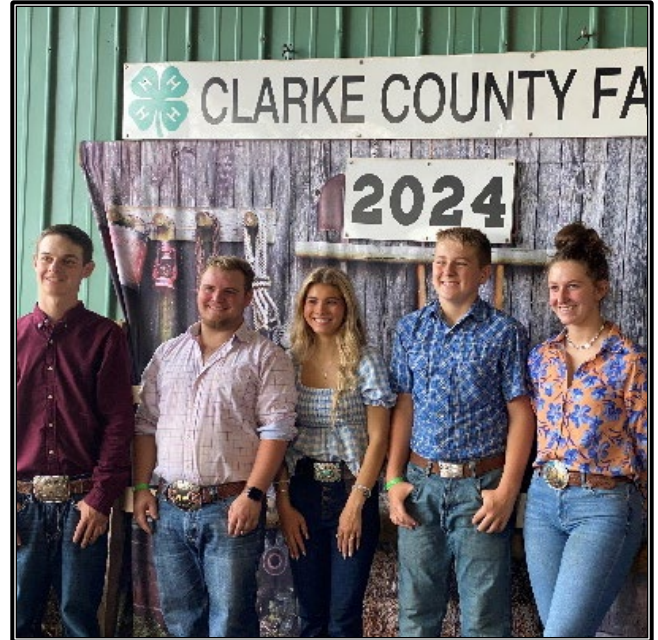
The Importance of Livestock Program Engagement and Career Success

Submitted by: Claudia Lefevre, 4-H Extension Agent

Livestock projects and programs have a long history in 4-H, and these programs allow 4-H youth the opportunity to present their projects, while demonstrating their hard work throughout the program year. 4-H youth also participated in comparable events, including livestock judging, skillathons, stockmens contests, and scholarship opportunities, which offer additional opportunities to showcase their knowledge of livestock and agriculture in an educational setting. Not only do these programs offer leadership and life-skills for 4-H youth, but youth animal science programs also allow the community and public at large to learn about the agriculture field. In many cases, these projects prepare 4-H youth for college majors and future careers in animal science and/or agriculture.

Between 2020 and 2024, the Clarke County 4-H program continued to offer animal science programming to 4-H youth, with the assistance of community partners and supporters. It was important to maintain a stronghold on a program that leads to life-skills and hands-on experience, with current real-world applications. Clarke County 4-H members had another successful year in 2024, with 4-H members participating in a variety of contests at the state, national, and international levels.

Our 4-H members received the added benefit of dedicated coaches for livestock judging contests, with one coach in Frederick County coaching a multi-county team in livestock and meats judging, a Clarke 4-H volunteer coaching dairy judging, as well as a Clarke volunteer coaching the poultry judging team. Without these dedicated volunteers and the 4-H members that participate in these additional programming events, their success in the field of agriculture would be harder to obtain without their continued commitment.



Between 2020 and 2024, approximately one-third of graduating seniors that participated in the Clarke 4-H program majored in agriculture and/or a related field at a two and/or four-year college program. In addition, there have been five former Clarke 4-H members that have served as Virginia Cooperative Extension interns in Northwest District within this timeframe. Highlights of careers from former Clarke County 4-H members post-college are as follows:

- Embryologist, Trans OVA Genetics
- Cattle Department, Audley Farms
- High School Ag Teacher, FFA Advisor
- Equine Nutrition, Cavator, North America
- Stockyard Sales, England Showstock
- Livestock Judge, Nationwide

Winter and Summer 4-H Camps Promote Positive Youth Development in Shenandoah Youth

Submitted by: Carol Nansel, 4-H Extension Agent

The camping delivery mode can promote the social, emotional, and physical development of youth. Youth learn new skills through classes and activities and interact with a diverse group of other campers. Additionally, social/emotional connections promote positive mental health. Through the teen counselor program, youth can experience leadership roles in a safe and caring environment. According to a study published by the American Camping Association in 2023, “58 percent of youth reported that their time at summer camp helped them appreciate the importance of being present in the moment — specifically, taking time away from technology, developing in-person relationships, taking breaks, and reducing distractions.”

Shenandoah 4-H provided two overnight camping opportunities for youth in 2024. We held one 4-H Winter Camp Weekend, for youth ages 9-13, which was held in February. We had a five-day overnight camp during June for youth ages 9-13. Both of those camps were held at the 4-H Center in Front Royal and were supported by teen counselors, adult volunteers, and Extension Staff. Planning for camps is an extensive process involving marketing and promotion of the program, recruiting campers, planning classes, recruiting and training teen counselors and adult volunteers, and organizing all activities.



In 2024, 41 youth were served as part of the Shenandoah camp program as campers (26), counselors in training (6), and teen counselors (9). Campers selected classes such as outdoor sports, canoeing, and swimming that promote physical health as well as classes in areas such as STEM, archery, and fine arts which provide hand-on learning and often new experiences.

Counselors in training (CITs) and teen counselors attend a minimum of 24 hours of training prior to serving in their roles. Part of their training includes understanding youth behavior, risk management, and camp songs and games. Teens serve as mentors to younger campers and can practice leadership in this role. Not only can they be selected as the “Great Bear” or head teen of camp, but we have instituted the practice of selecting “lead teens” of packs (groups) of campers which gives 8-10 more teens the opportunity to practice serving in a leadership role. Four adults, from Shenandoah, supported our winter and summer camp programs through class instruction and supervision.

Scholarships were awarded based on an application process for each camp. Reducing barriers to camp participation through camp recruitment and scholarship helps to bring this important youth programming model to underserved audiences.

As part of the 2024 summer junior camp survey, distributed by the Northern Virginia 4-H Educational Center, 92% of campers reported making new friends, while 85% reported increased confidence in trying new activities, overcoming fears, and embracing challenges.



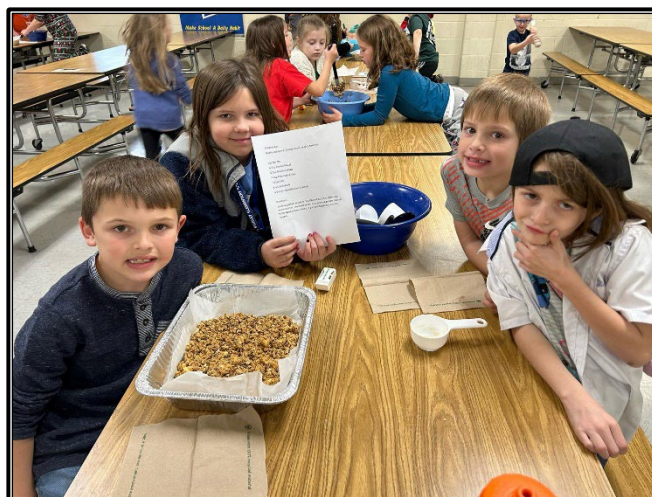
4-H Partnership with Schools and After School Programs Increasing Life Skills and SOL Correlated Learning

Submitted by: Meagan Dyer, 4-H Extension Agent

Childcare has been a continuous issue within Page County. In speaking with several families and community groups within the community, the issue of after school childcare has been brought up numerous times. In Page County, as a whole, there are three childcare centers registered and licensed through the Virginia Department of Education (VDOE) and the Department of Social Services. There are no licensed childcare facilities in the southern half of the county. According to the Virginia Department of Education's School Quality Profile, students in Page County are performing below state averages in several areas. In 2021-2022, 43% of students did not pass state mathematics tests and 42% did not pass state science tests. This is an improvement from test scores in 2020-2021. Covid-19 and the resulting school closures and quarantine periods have made a lasting impact on students' lives. Virginia Department of Education data showcases that there have been severe drops in student test scores when comparing them to scores in 2019. Student participation in clubs and in school activities has also significantly decreased.

In an effort to mitigate these issues, several community organizations have come together to offer afterschool educational programs in cooperation with Page County Middle School, Stanley Elementary School, and Luray Elementary School thanks to a VDOE grant. All youth enrolled in the afterschool programs received over six hours of 4-H instruction, completing semester long project-based learning assignments that focused on nutrition and environmental science. In-school programming has continued to increase with all second-grade classrooms in the county receiving environmental education through Goods in the Woods. All first-grade classrooms at Shenandoah, Stanley, and Luray elementaries receive nutrition education through Read for Health. All eleventh graders in the county participate in Reality Store as we focus on career readiness and life skills with our older participants. 4-H continues to be a strong partner of both local FFA chapters for a multitude of projects, the most popular being both schools Food for America events that occur annually.

Goods from the Woods has been a long-standing program for Page County 4-H. Every second-grade teacher has indicated that they would like to continue the program for the next school year, and several youths have shared that their pine seedlings have continued to grow and that they are having fun tracking their growth with their family. First-grade students at Shenandoah Elementary, Stanley Elementary, and Luray Elementary have expressed interest in trying new foods. 84% of students that have participated in the Read for Health program have stated that they have tried a new fruit or vegetable that they have liked so far this school year. As a result of the project-based learning activities in the afterschool program, middle school youth showed an increase in environmental science understanding by 80% when comparing their projects pre- and post- tests. In addition to the programmatic partnerships with the public school system, I have participated as a committee member for the PCPS Nutrition Services wellness committee and the PCPS Community Forum groups as a way to share information to provide further opportunities to the youth of Page County.



Empowering Future Leaders Through Teen Engagement in Warren County 4-H

Submitted by: Emily Shultz, 4-H Extension Agent

Keeping teens engaged in 4-H can be a challenge. They are involved in sports, have jobs, and other extracurriculars which makes it hard for them to add one other commitment. However, it is more important than ever that we keep teens engaged as they prepare to tackle today's challenges and to prepare for their futures. A study from the National 4-H Council found that seven out of ten teens struggle with mental health after the pandemic. Additionally, the 2023 Northern Shenandoah Valley Community Survey found that 73.8% of respondents think that Virginia Cooperative Extension should put moderate to very high effort into addressing adult and youth mental health. 4-H helps to provide a safe space for teens to let their voices be heard and supports social-emotional health. At the beginning of 2024, the only opportunity for teens in Warren County 4-H was to be a Counselor-in-Training (CIT) or Counselor for overnight camp. Teens need more than just one opportunity to become leaders in their communities.

In 2024, there were 36 teens that were CITs or Counselors in Warren County. They went through camp training and attended the Clarke-Warren 4-H Summer Camp for five days and four nights. To give them more opportunities in the summer, five senior teens were asked to help lead the Cloverbud Day Camp for three days. During the day camp, they led camp songs, provided a different physical activity each day, taught camp days, and aided the Cloverbuds with various projects throughout the week. Aside from camps, two teens from our 4-H clubs put on a petting zoo at a promotion event in the Fall.

In the Fall, the Teen Club was also created. The club is run by the teens, and they decide what they would like to learn and what community service projects they would like to take on. In 2024, they focused on establishing their goals. They adopted a child and an elder for Christmas and provided gifts for them. They also had a promotional event at the arcade for teens interested in the club to get to know them.

In 2024, teens were provided with two new opportunities in Warren County. There were 13 teens involved in the Warren County Teen Club during 2024. They participated in community service during the holiday season. Of those in the Teen club, six had never participated in 4-H before and only three were involved with overnight camp. One teen said, *"I'm glad there's a club for just teens where we can choose what we want to do."* Also in 2024, six camp teens participated in day camps, giving them an additional leadership opportunity. The teen club is still new but is expected to grow and complete more civic engagement opportunities in the future.



Frederick County 4-H Advances STEM Education Through Interactive Programs That Bring Science to Life

Submitted by: Spring Vasey, 4-H Extension Agent

STEM (Science, Technology, Engineering, and Math) education is a critical need in Frederick County and Winchester City, where schools face limited resources for hands-on, experiential science programs. Research underscores the importance of interactive, real-world STEM activities in enhancing students' understanding of science while inspiring career aspirations in related fields. According to the National Math and Science Institute, the demand for STEM professionals is projected to grow at a significantly faster rate than non-STEM occupations, with STEM jobs expected to increase by 10% by 2032. Addressing this need through robust educational programs is essential to mitigate the anticipated shortage of qualified professionals.

To address the community's need for accessible STEM learning, a series of innovative programs designed to engage youth through diverse delivery methods were implemented. Each program was carefully designed to not only spark curiosity but also provide the tools and opportunities necessary for deeper learning and skill development. Funding from key sources allowed these programs to remain accessible and impactful. STEAM Through 4-H: This six-week curriculum focused on robotics, engineering, and coding fostering critical thinking and teamwork while making abstract STEM concepts tangible and exciting. The program was entirely funded by the Thwaite Memorial Endowment, which ensured all materials and activities were provided at no cost to participants. Teen-Led Forensic Science Workshop: Two teens in our program received a Virginia 4-H state grant to design and lead a six-week forensic science workshop. This initiative combined science and creativity while promoting leadership development and peer-to-peer mentorship. Embryology in the Classroom: A three-month spring program integrating life sciences provided students with real-world biology experiences. The program was funded by classroom fees, ensuring its sustainability and accessibility to schools across Frederick County and Winchester City.



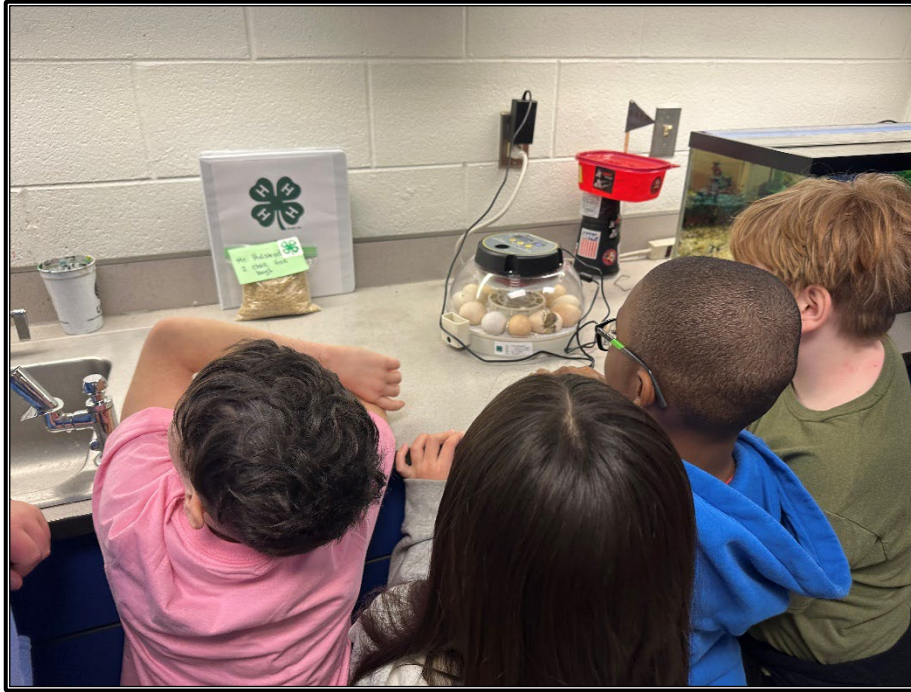
One of the most impactful programs, Embryology in the Classroom, reached an unprecedented number of students in 2024. I coordinated and facilitated this program for 1,300 students across 48 classrooms in Frederick County and Winchester City. Over the course of three months, 576 fertile chicken eggs were distributed, allowing students to observe the life cycle of chickens, from egg to chick, in real-time. 100% of teachers reported that their students demonstrated increased responsibility and a greater appreciation for living things because of participating in the 4-H Embryology Project. 83% of students could accurately explain how chickens develop to a peer. Teacher Feedback:

- *"The class was able to watch three of the eggs hatch from beginning to end. This was the only time in the day my students were 100% quiet and engaged. It was such a great experience!"*
- *"This program was worthwhile—engaging students and adding nonfiction reading to our literacy block. It increased their interest in asking questions, researching, and reading factual information."*

To ensure the program's sustainability, I increased classroom fees to \$15 while leveraging the Frederick County Endowment to keep it affordable and accessible for all schools. Beyond the numbers, students gained essential skills such as scientific literacy, critical thinking, and an appreciation for life sciences. The inaugural "STEAM Through 4-H" program reached 91 fifth-grade students, offering hands-on activities in robotics, engineering, and coding. By the end of the program: 90% of participants could successfully design and code



a simple robotic task. 95% reported increased confidence in their STEM skills and expressed interest in pursuing further STEM learning opportunities. Our Teen-Led Forensic Science Workshop program engaged 12 youth in an interactive six-week experience, blending science with creativity while creating peer-to-peer mentorship: 85% of participants could name different fields of forensic science and make observations to evaluate a crime scene. 100% of participants successfully duplicated their fingerprints and evaluated the unique patterns. 90% demonstrated proficiency in gathering evidence and decrypting simple codes by the program's conclusion. Through these programs, 4-H continues to provide free or low-cost STEM learning opportunities that bridge the gap in STEM education. Frederick County 4-H is not only addressing the educational needs of today but also inspiring a lifelong love of science and learning in the leaders of tomorrow.



Promoting Agriculture, Natural Resources, and Environmental Literacy in Page County

Submitted by: Meagan Dyer, 4-H Extension Agent

Promoting agricultural, natural resources, and environmental literacy was identified as the second most important issue in the 2023 Page County Community Needs Survey. Environmental literacy is defined as the ability to make environmentally sound decisions and take appropriate action. Agriculture literacy is the understanding and knowledge of agriculture and its impact on society. Page County is rich in agriculture and natural resources. With the growing rural-urban divide, agriculture literacy is important for mutual understanding and respect. It is important for citizens to understand the economic, social, and environmental significance of agriculture. This issue is closely tied to the other issues of preserving farmland, forest land, protecting our environment, and agricultural viability. In order to preserve and protect our resources, one must have a general knowledge and awareness of them.



In 2024, there were a variety of programs in our office that addressed this need. The youth livestock program introduces 4-H'ers to livestock production projects, while our horse club has been focusing on educational, nonriding opportunities to provide youth with a strong understanding of the equine industry. Agriculture and Project Learning Tree lessons have been taught during after-school programs at three local public schools' CCLC programs as well as in our Cloverbud club. In-school natural resource programs, like the Goods in the Woods program, help to introduce second graders to natural resource literacy, while nutrition programs such as Read for Health introduces first graders to locally grown produce.

Partnership between Luray High School and Page High School FFA Chapters continues to strengthen as we continue to expand involvement in Food for America Program annually. Food for America is an educational program focusing on agricultural literacy in elementary schools and communities.

As a result of these programs, 981 youth engaged in agriculture and environmental literacy topics. Of the students who participated in Read for Health, 93% reported they were more likely to try new foods as a result. Every second grader within Page County Public Schools received forestry education and a pine seedling to take home and plant. There has been an increase in interest for 4-H programming from new teachers. Plans for the 2025-26 school year are already being discussed, and we are looking forward to continuing to strengthen our partnership with the public school system.



Igniting Growth, One Spark at a Time: Warren County 4-H Experiences Program Growth

Submitted by: Emily Shultz, 4-H Extension Agent

4-H has multiple ways to engage youth in their local communities. Whether it is through community clubs, in-school clubs, school enrichment programs, after-school programs, SPIN clubs, overnight camp, day camps, or workshops, there is a place for everyone in 4-H. By utilizing a learn by doing approach, provides them with necessary skills to succeed now and into adulthood. These programs are not possible without adult volunteers to lead them.

In the 2023 Northern Shenandoah Valley Community Survey, 92.9% of respondents in Warren County responded that Virginia Cooperative Extension should focus a moderate to very high effort on getting more adults involved in mentoring youth. At the beginning of 2024, Warren County 4-H only had three community clubs, two-day camps, and an overnight camp program. It is vital that the 4-H program grows to provide youth with important life skills and to foster positive relationships with trusted adult volunteers.

To begin growing the 4-H program in Warren County, it was imperative to promote it through multiple methods. In 2024, Warren County 4-H had six different promotion booths at community events in Front Royal. A new Facebook page was created for Warren County 4-H, which gained 197 followers and reaches approximately 1,000 viewers per month. Emails were also sent to all the public and private schools in the county to provide them with information on what 4-H offers. The 2024 Skyline Stockmen's Contest and Warren County Show and Sale were promoted through newspaper writeups. Warren County 4-H was also promoted during National 4-H Week in the Northern Virginia Daily. Lastly, the local program was promoted on The River 95.3.



Through meeting with parents and volunteers in 2024, five new clubs have been added in Warren County. The four community clubs are: More Than Market, Cloverbuddies, Blue Ridge Riders, and the Teen Club. The fifth club is an in-school club at E. Wilson Morrison Elementary School. More Than Market is led by two existing 4-H volunteers who wanted a livestock club that also allows youth to participate in projects other than livestock. We worked together to come up with an action plan and goals for the club. Cloverbuddies is led by an existing volunteer as well as a new volunteer; two other new volunteers assist with the club as well. It is a group for only Cloverbuds (ages 5-8), that focuses on their unique needs. Blue Ridge Riders is led by two new volunteers and is a horse club. One leader is a former Warren County 4-Her. The Teen Club is led by a volunteer who decided to get involved with 4-H again after a break and a new volunteer. This club is for ages 13-18 and focuses on leadership, civic engagement, and learning practical life skills. Lastly, the in-school club is led by a teacher who previously only sent his students to overnight camp and procured scholarships for them. The club is for 4th and 5th graders with a focus on environmental stewardship and horticulture.

In 2024, two new workshops were made available to youth. These were a record book workshop and a rabbit/poultry workshop. During the Warren County Fair, an existing day camp, Farmer for a Day, was offered again. There was also a new 3-day camp for Cloverbuds, and the overnight Clarke-Warren 4-H Summer Camp took place the end of July. Warren County 4-H also puts on the Skyline Stockmen's Contest every year through the VLA. In 2024, there were 197 participants from across Virginia. One volunteer said, *"I think the Stockman's Contest went very smoothly, maybe even the best we've been to!"* Providing multiple opportunities for engagement is necessary in retaining and keeping youth involved with 4-H.

In 2024, there were eight active 4-H clubs in Warren County with a total of 94 youth enrolled, which was 39 more youth enrolled in clubs than in 2023. There were eight new volunteers enrolled in Warren County for a total of 40 volunteers. Eighteen youth participated in workshops in 2024. Day camps had 23 total participants. Warren County had 143 youth attend overnight camp. Overall, Warren County 4-H has seen significant growth, and has provided multiple new programs and activities for youth to participate in. This is only the beginning, and Warren County 4-H will continue to go and grow!

Frederick County 4-H Inspires Healthy Futures Through Hands-On Living and Learning

Submitted by: Spring Vasey, 4-H Extension Agent

According to a national survey by GENYOUth, 40% of teenagers aged 13–18 report knowing little to nothing about where their food comes from. Additionally, the 2023 Virginia Cooperative Extension (VCE) Situational Analysis Report identifies public health, including youth and adult mental health, as top priorities for Winchester City and Frederick County. Youth who learn proper nutrition, exercise, and self-care are more likely to adopt healthy habits that last a lifetime, reducing their risk of chronic illnesses such as obesity, diabetes, and heart disease. Teaching stress management and mindfulness equips youth with tools to handle challenges, minimizing their risk of mental health concerns like anxiety and depression.

The 2024 Healthy Living initiative in Frederick County encompassed a wide range of programs that engaged youth in hands-on learning experiences to promote physical health, mental well-being, and sustainable lifestyles.

- In-school and Community Gardening Projects: Youth learned the benefits of growing and eating fresh produce while understanding the importance of local food systems.
- Camp Outdoor Cooking Classes: Over five days, 42 campers participated in classes where they prepared healthy meals and snacks, equipping them with essential life skills.
- Equine and Livestock Projects: Involving 115 youth; these projects required physical labor and fostered responsibility while encouraging movement and fitness.
- Mental Health and Emotional Well-Being: Leadership roles, public speaking opportunities, and service-learning projects built confidence, self-esteem, and a sense of purpose.
- Mentorship Programs: Adult volunteers modeled and reinforced healthy behaviors while mentoring youth through various activities and service-learning projects.

42 campers participated in outdoor cooking classes, learning to prepare nutritious meals over five days. 115 youth engaged in equine and livestock projects, promoting physical activity and responsibility. 30 youth attended workshops on stress management and mindfulness, learning techniques to build resilience. 500+ hours of youth volunteering contributed to community service projects, fostering a sense of purpose. 164 adult volunteers served as mentors, reinforcing positive lifestyle habits. Additionally, initiatives such as the Ag in Action Day Camp, featuring lessons on dairy, and food art activities with awards, made learning about healthy living fun and engaging. Youth were recognized for their achievements through awards for food art contests, further motivating them to adopt and promote healthy habits. Frederick County's Healthy Living programs in 2024 provided youth with essential skills and experiences to lead healthier lives and manage stress. By combining education, mentorship, and practical applications, these programs helped create a generation that values physical activity, proper nutrition, and emotional well-being.



Youth Livestock and Horse Education

Submitted by: Meagan Dyer, 4-H Extension Agent

Page County is Virginia's fourth largest livestock products producing county according to the 2022 Census of Agriculture. Agriculture and Livestock production are important foundations of the local community. The Virginia Department of Agriculture reported in 2012 that the average age of a Virginia farmer was 61 years old. With Page County having a large agriculture industry, it is vital to involve youth in agriculture production at a young age in order to continue the farming traditions of the county. Livestock projects teach participants about proper animal care, responsibility, record keeping, communication, and budgeting among other important life skills.



Page County 4-H addresses the need and want for agricultural and livestock education in a number of ways. Page County has two livestock clubs: Junior Stockman's and Senior Livestock in addition to the 24 Carrots Horse Club. The three clubs meet once a month and cover a range of topics for horses, lambs, goats, swine, and beef species. Horses, market steers, heifers, market lambs, breeding ewes, market hogs, and a pen of two hogs are project options for club members. All Page County Livestock Exhibitors received certification through the YQCA Program. As the local animal science program grows, a need for volunteer restructuring was needed. This year several new committees have been formed and long-term standing committees that play a role in implementing the animal science program have been restructured. Youth had access to participate in a multitude of local, district, and state contests and livestock shows.

A total of 107 youth enrolled in a livestock and/or horse club for the 2023-2024 year. Clubs met once a month, respectively. There were also a number of additional programs offered such as judging clinics, Market Animal College, and species-specific clinics. All livestock program participants received YQCA certification. The Page Valley 4-H and FFA Market Animal Sale sold a record number of animals for a record total of \$310,224.45. Every species had an increase in participation than the previous year. Every 4-H member, who sold an animal, turned in a completed record book and completed a record book interview where they discussed their project and experience through the year.



4-H Youth Explore the World Through International Travel

Submitted by: Carol Nansel, 4-H Extension Agent

The Hispanic population in Virginia continues to increase along with the need to be more diverse, equitable, and inclusive. There are limited opportunities for youth to participate in an international 4-H experience, and many areas within Virginia are geographically remote and rural areas. These barriers create challenges in helping young people develop a strong understanding of cultural diversity, global awareness, and the realities faced by communities beyond their immediate environment. Providing opportunities for cultural immersion and service learning is essential to fostering critical life skills such as adaptability, empathy, and communication. The Virginia 4-H Service Trip to the Dominican Republic meets this need by offering youth a structured and meaningful way to engage with diverse cultures, practice foreign language skills, and contribute to global service.



To learn more about interacting with Spanish speaking people by being immersed in their culture, a partnership was developed between local 4-H teens and teens from the Dominican Republic to develop language skills, to learn about Latino culture, and to conduct meaningful service in the Dominican Republic. This was the sixteenth year of a program that was built in 2006 through Virginia Tech's membership in the Punta Cana Association and partnership with the Punta Cana Ecological Foundation and Center for Biodiversity and Sustainability. Because of the Covid-19 Pandemic, this program was not held in 2020, 2021, or 2022.

For the second year, we provided the 4-H Dominican Republic Program for Virginia High School students who received positive recommendations from their Extension Agent. The program offered immersive cultural experiences including day camps for local Dominican children, service projects in local Dominican communities, and opportunities to practice Spanish. The trip challenges participants to step out of their comfort zones, fostering personal growth and leadership development. This was the first year we organized two separate weeks for student participation. We continued the "Sponsor a Dominican Camper" to provide camp scholarships for Dominican children from one of the poorest villages outside Punta Cana and provide their transportation to our 4-H Day Camp.

Our 2024 delegation included 24 teens from Shenandoah, Alleghany, Highland, Augusta, Albemarle, Prince William, Alexandria, Scott, Culpeper, and Petersburg Units. We had one adult volunteer from Culpeper County, one VSU Specialist, and four 4-H Agents from Bath/Highland, Augusta, Culpeper, and Alexandria Units. This was the largest group we have ever taken to the Dominican Republic.

While in the Dominican Republic, our group worked with 23 Dominican teen partners to lead craft projects, games, dancing, and environmental projects during a two-day 4-H camp that reached 82 Dominican campers, ages 8-13. Participants took part in hands-on service work, including facilitating day camps for local Dominican children alongside Dominican teen partners, exploring sustainable agricultural practices, and distributing school supplies within local communities. Beyond these service efforts, structured cultural activities offered valuable insights into Dominican traditions, history, and daily life. Meaningful interactions with the local population fostered authentic cultural exchanges and deeper connections.

Daily reflection sessions encouraged participants to process their experiences, share personal insights, and discuss challenges they faced. These discussions highlighted the growth in adaptability, teamwork, and problem-solving skills among the youth.

Throughout the experience, participants built strong connections not only with Dominican community members but also with fellow 4-H members from across Virginia. These relationships fostered a sense of camaraderie and support, making the experience both impactful and memorable. They demonstrated increased cultural awareness, empathy, and confidence in their ability to navigate unfamiliar environments.

The following quotes from participants' evaluations illustrate the profound lessons they learned during the trip.

- The most important things I learned this week about Dominican Culture were: *The Dominicans have an amazing culture. It is similar to ours in a way, but all cultures are unique. I learned to embrace their culture to fully allow myself to understand and enjoy their culture. People seemed more laid-back, had more visible and collective enjoyment towards the arts such as music and dance, and had a bit different ideas on what racism were compared to people in the U.S. The people here, especially kids, are so happy and thankful for what they have, even if it's not a lot. Everyone is very welcoming, and these people are rich in life. Everyone is very close, family oriented, and kind. They also speak their mind and don't take things personally which makes them very funny.*
- The most important things I learned this week about speaking Spanish were: *It can be sometimes difficult to balance between Spanish and English, but all it takes is practice. As long as you strive to learn, the more successful you will be. It's okay to be wrong and learn new things. Many words definitions change based on their context. I learned more in a week than I have in a semester long class. That it's ok to try even when you're not fluent.*
- The most important things I learned this week about myself were: *Is that people will accept you for who you are. I can openly be myself without feeling shame. I've grown to be a more civilized individual and have embraced myself to be more compassionate, caring, and open minded. How to be grateful for what I have and be happy in the moment. This trip helped me see the kind of people I should surround myself with, kinder and more honest, open, intelligent people. To learn about others' cultures. Always be a learner and be present in the moment because there is a lot you can learn.*
- The most important things I learned this week about being a leader: *It's not easy, but it isn't impossible for anyone to become one. As long as you approach an activity or something with positivity and a smile, most of the time kids will reciprocate that energy. People will look up to you once you take control. Everyone has the ability to be a leader, but not everyone pursues that. By being or becoming a leader, you push yourself to the highest limits and people really do envy that. You don't need words to lead. Learning to offload responsibility and not taking it all on myself. Once I started giving others responsibility, they became a lot more focused, independent and became leaders of their own.*
- When you get home, what will you do differently as a result of participating in this program? *I will educate people, for example: my friends, family, and peers about exploring a different country and its way of life. I will never take what I have for granted and cherish the blessings I have in life. I will try and live life to the fullest. I won't take everything for granted, and I will try my best to work on my attitude. Say "no" less, enjoy life and get all the experience I can, find more kindness, and spread kindness and intellect. Pay more attention to what people say and do.*
- The best parts of the trip for me were: *Getting to know all the teens. The trip in 2019 did not have them from all over the state. I enjoyed the difference between teens just within the 4-H group. Getting to know the kids at day camp and the other delegates on the trip. I met such amazing people this week. I really enjoyed learning about the culture in the Dominican Republic. The scenery and nature were breathtaking. I loved being able to make new friends and memories that will last a lifetime in only just a week. The day camp and getting to know the campers. I enjoyed seeing how happy they were and how they made the best out of the little things. The best part was being able to see and experience a whole new culture and being welcomed by everyone. The best part of the trip was being with the kids and also meeting the amazing teens I went with. I loved being with the kids and connecting with them by playing games and making bracelets.*
- Any other comments you'd like to share? *This week was definitely one of the best weeks ever. I made so many core memories, met the sweetest people, and learned so much about Punta Cana and about myself. The people here are so kind and grateful for what they have, and I aspire to be more like them. This trip really changed my perspective on life.*



By Building Tomorrow's Leaders, Frederick County 4-H Equips Youth to Be Beyond Ready for Future Career Success

Submitted by: Spring Vasey, 4-H Extension Agent

Career preparedness is essential for youth in Frederick County, as they face an increasingly competitive workforce that demands a diverse set of skills. Research highlights the importance of early exposure to communication, leadership, and real-world problem-solving experiences in developing career-ready individuals. According to the U.S. Department of Labor, employment opportunities requiring strong communication and leadership skills are projected to grow significantly over the next decade. Equipping youth with these skills ensures their readiness to thrive in professional settings and contribute meaningfully to their communities.

To address the critical need for career readiness, comprehensive programs that equip youth with practical skills and experiences were initiated. These initiatives were designed to support communication, leadership, financial management, and real-world problem-solving capabilities:

- **Public Speaking and Communication Workshops:** These sessions provided youth with tools to excel in interviews, presentations, and public speaking engagements. Participants practiced delivering speeches, responding to questions, and building confidence in their communication skills.
- **Leadership Training:** Youth assumed officer roles within their clubs, led activities, and honed time management skills through organizing and facilitating meetings. This hands-on approach allowed them to develop leadership qualities in real-world settings.
- **Judging Contests and Oral Reasons:** Through participation in judging contests, youth evaluated scenarios, developed critical thinking skills, and practiced articulating their reasoning in structured formats.
- **Resume and Portfolio Development:** Project books, resumes, and portfolios served as tools for youth to document their achievements and experiences, preparing them for future job applications and college admissions.
- **Hosting an Intern:** The program provided real-world experience by mentoring an intern, showcasing the importance of teamwork and professional development.
- **Financial Management and Entrepreneurship:** Through market animal projects, youth learned about budgeting, profit analysis, and the entrepreneurial aspects of agricultural ventures.
- **Conservation Agriculture Day:** Youth gained exposure to environmental science and agricultural careers through hands-on activities, building their awareness of sustainable practices and career opportunities in conservation.
- **Camp Counselor Opportunities:** Teens stepped into mentorship roles as camp counselors, gaining leadership and organizational skills while fostering a supportive environment for younger campers.



Over 150 youth participated in public speaking and judging contests, with 85% demonstrating improved communication and reasoning skills. 40 youth served as officers in their clubs, gaining firsthand experience in managing responsibilities, leading meetings, and organizing activities. 180 project books were submitted, showcasing the youth's ability to set goals, reflect on their achievements, and articulate their learning experiences. Hosting an intern provided mentorship opportunities and insight into professional environments, with the intern expressing increased readiness for future career endeavors. Market animal projects enabled 91 youth to understand financial management, with 90% reporting increased confidence in budgeting and business planning. In our camp counselor program, 49 teens served as camp counselors encouraging teamwork, leadership, and organizational skills while supporting over 200 younger campers. Feedback:

- *"Leading club meetings has made me more confident in organizing and managing tasks. I feel better prepared to take on leadership roles in the future."*
- *"The judging contests taught me how to evaluate situations critically and explain my decisions clearly. These are skills I know I'll use in my career."*

These programs highlight the transformative power of 4-H in preparing youth for their futures. By nurturing essential skills such as communication, leadership, and financial literacy, we are equipping the next generation with the tools they need to succeed. Through innovative programs and activities, Frederick County 4-H continues to create opportunities that empower youth to become confident, capable, and career-ready leaders.



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