

# **North Carolina FFA Association**

## **CTE Grants for Agriculture**



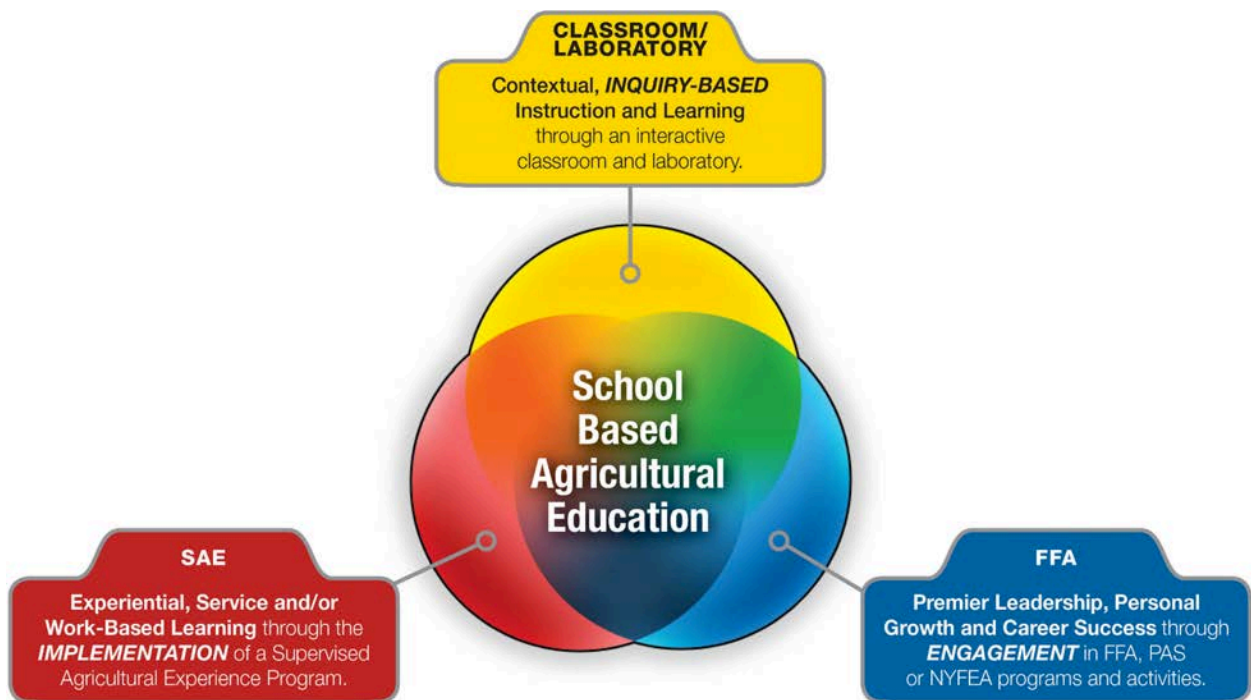
**Progress Report**  
**December 2024**

# North Carolina Agricultural Education

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Agricultural education is a systematic program of instruction available to students desiring to learn about the science, business, and technology of plant and animal production and about the environmental and natural resources systems. Agricultural education first became a part of the public education system in 1917 when the U.S. Congress passed the Smith-Hughes Act. Today, over 83,600 students participate in formal agricultural education instructional programs offered in grades six through twelve in 98 counties across North Carolina. Agricultural education instruction is delivered through three major components.

- Classroom/Laboratory instruction
- Supervised Agricultural Experience programs
- Student leadership organizations



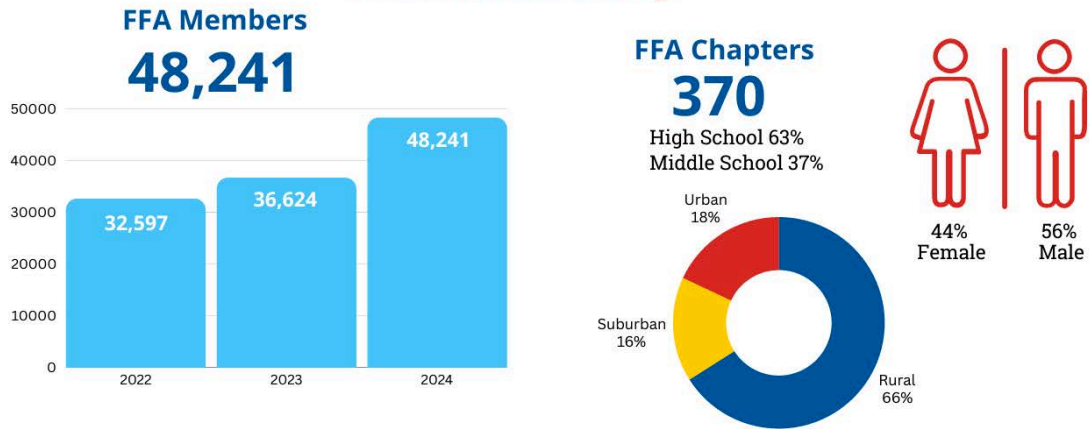
# North Carolina FFA Association

FFA is a dynamic youth organization that changes lives and prepares members for premier leadership, personal growth and career success through agricultural education. FFA develops members' potential and helps them discover their talent through hands-on experiences, which give members the tools to achieve real-world success. Members are future chemists, veterinarians, government officials, entrepreneurs, bankers, international business leaders, teachers and premier professionals in many career fields. FFA is an intracurricular student organization for those interested in agriculture and leadership. It is one of the three components of agricultural education.

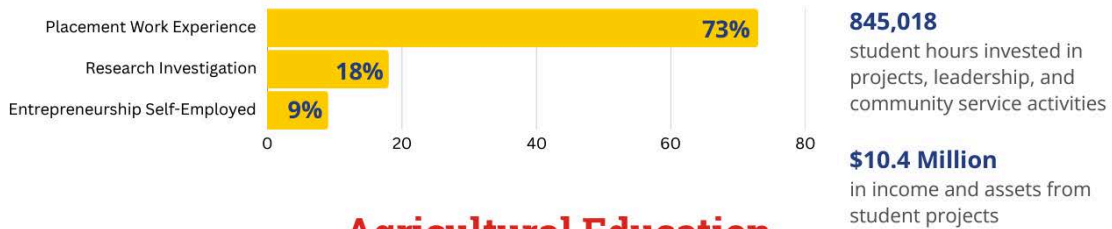
## NORTH CAROLINA FFA 2024 QUICK FACTS

Growing the next generation of leaders who will change the world.

### FFA Membership



### Work-Based Experiential Learning



### Agricultural Education



## Report Summary

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House Bill 259, Section 8.9 allocated \$2,000,000 in grant funding to support agricultural education programs within career and technical education in middle and high school public school units across North Carolina. The funds were designated for purchasing essential equipment and expanding facilities for agricultural education programs.

The North Carolina FFA Association released the 2023-2024 CTE Grants for Agriculture application on October 31, 2023, and included information and resources online at:

<https://ncffa.org/agricultural-education/cte-grant-for-agriculture/>

Grant applications were due on February 1, 2024, and the program received 88 submissions requesting a total of \$5,868,093.31 in funding. All recipients were reviewed to ensure they met the legislative criteria, which prioritized public school units located partially or entirely in counties where at least one local school administrative unit received low-wealth supplemental funding in the previous fiscal year. Additionally, priority was given to schools with a high population of at-risk students or students with disabilities. After validating eligibility, the applications were evaluated.

To ensure impartiality, scoring was conducted by an independent party unaffiliated with North Carolina Agricultural Education or the North Carolina FFA Association. On March 1, 2024, grants were awarded to 35 applicants, totaling \$1,983,540.23. Funds were distributed to grant recipients in July 2024, and project work commenced shortly thereafter. Grant recipients submitted individual progress reports by October 15, 2024. The information provided by teachers and school administrators was compiled to produce this report.

The 35 grant recipients were spread across a wide area, from Haywood County in the west to Camden County in the east. The recipients represent 30 counties in total, with 20 classified as urban and 10 as rural. The grant awards ranged from \$2,926 to a maximum of \$100,000. The legislation allowed up to \$50,000 to be allocated for grant administration. However, the North Carolina FFA Association used significantly less, spending only \$16,499.77 for this purpose.

Grant recipients used the funding to acquire a wide range of equipment and expand facilities across all agricultural education curriculum pathways. In the area of sustainable agriculture, land lab equipment, planters, seed drills, and irrigation systems were purchased. Modern livestock facilities were constructed or expanded, and livestock equipment was acquired to enhance instruction in animal science. For plant science, grants supported the construction of raised beds and gardens, fruit and vegetable production, greenhouse construction, hydroponic systems installation, and the creation of a micropropagation lab. Instruction in natural resources was bolstered with purchases like sawmills and the expansion of nursery areas. Additionally,

grant funds provided CNC routers, welders, plasma tables, trailers, lawnmowers, tractors, trucks, utility vehicles, and skid steers, all aimed at increasing hands-on learning opportunities for students in agricultural mechanics and engineering.

As of this report, some grant recipients have successfully finished their projects. Other recipients have encountered project implementation delays stemming from various factors, such as supply chain disruptions, labor shortages, and fluctuating material costs. Despite these challenges, all recipients have made progress and remain confident in meeting project deadlines.

The remainder of this report includes an impact summary and a financial summary to provide an overview of the grant program and its recipients. Additionally, individual progress reports from grant recipients are included to showcase the details of each project.

## Impact Summary

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<b>Program</b>	<b>Students Impacted by Project</b>	<b>Community Members Benefited by Project</b>	<b>Total People Impacted by Project</b>
Alexander Central High School	105	4	109
Alleghany High School	59	0	59
Asheboro City School	450	150	600
Camden Middle School	0	0	0
Chatham Central High School	45	4	49
Corinth Holders High School	257	20	277
Corriher-Lipe Middle School	0	0	0
Davie County High School	1,940	600	2,540
E.B. Frink Middle School	100	25	125
East Wilkes High School	55	0	55
Gates County High School	42	0	42
Jones Senior High School	65	0	65
Lakewood High School	150	30	180
Ledford High School	0	0	0
Midway High School	0	0	0
Monroe High School	0	0	0
Mount Pleasant High School	0	0	0
North Carolina School for the Deaf	64	25	89
North Forsyth High School	0	0	0
North Iredell High School	640	25	665
Northwest Cabarrus High School	0	0	0

<b>Program</b>	<b>Students Impacted by Project</b>	<b>Community Members Benefited by Project</b>	<b>Total People Impacted by Project</b>
Pender High School	75	0	75
Perquimans County High School	0	0	0
Polk County High School	1	1	2
Riverside High School	0	0	0
South Granville High School	80	15	95
South Rowan High School	40	1	41
South Stokes High School	85	0	85
Southern Nash High School	100	5	105
Sun Valley High School	12	6	18
Vance County High School	45	2	47
Wake County High School	300	0	300
Waynesville Middle School	150	10	160
West Rowan High School	425	3	428
Whiteville High School	215	20	235
<b>Totals</b>	<b>5,500</b>	<b>946</b>	<b>6,446</b>

## Financial Summary

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Description	Amount (\$)
Starting Balance	2,000,000.00
Grant Scoring and Evaluation	1,500.00
Schools Awarded Grants	
Alexander Central High School	57,641.27
Alleghany High School	36,693.00
Asheboro City School	9,000.00
Camden Middle School	25,204.00
Chatham Central High School	9,090.00
Corinth Holders High School	70,853.06
Corriher-Lipe Middle School	100,000.00
Davie County High School	58,118.91
E.B. Frink Middle School	2,926.84
East Wilkes High School	79,218.52
Gates County High School	17,609.45
Jones Senior High School	30,125.18
Lakewood High School	99,886.97
Ledford High School	69,813.14
Midway High School	16,522.17
Monroe High School	29,900.00
Mount Pleasant High School	79,683.00
North Carolina School for the Deaf	9,385.00
North Forsyth High School	25,546.25
North Iredell High School	75,769.69



<b>Description</b>	<b>Amount (\$)</b>
Northwest Cabarrus High School	93,652.00
Pender High School	99,161.58
Perquimans County High School	98,797.43
Polk County High School	15,000.00
Riverside High School	96,724.86
South Granville High School	100,000.00
South Rowan High School	10,908.65
South Stokes High School	100,000.00
Southern Nash High School	61,670.28
Sun Valley High School	15,630.44
Vance County High School	80,941.63
Wake County High School	100,000.00
Waynesville Middle School	21,000.22
West Rowan High School	87,026.69
Whiteville High School	100,000.00
<b>Remaining Balance for Administration</b>	<b>14,999.77</b>

# Detailed Grant Recipient Reports

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**Program Name**

Alexander Central High School

**Project Title**

Agriculture Facility and Equipment Upgrade

**Status of Project**

In Progress

**Activities completed to achieve stated goals**

Since receiving the funds for the agricultural facilities and equipment upgrade we have ordered some supplies and are in the process of setting up the CNC Router, welding helmets, Makita power tools as well as the new heater for the greenhouse. We are continuing to get updated quotes for other supplies on our list and will be ordering those in the near future.

**Student outcomes**

- Animal Science and Agricultural Mechanics classes have been working on designing and developing a bill of materials for our fencing supplies for the school farm. Students have researched materials and are currently working on budgeting fencing supplies.
- Agricultural Mechanics students have been able to use the newly updated welding helmets for hot metal skills in Agricultural Mechanics I classes for arc welding (STICK and MIG). Students have used the helmets to demonstrate mastery of lap, butt, and fillet welds as well as demonstrate safety in the mechanics shop.
- Agricultural Mechanics and Agriscience students have demonstrated proper safety procedures and tool identification by purchasing new portable Makita hand tools. Students have completed the safety protocols covered in both course blueprints and demonstrated proper safety with the hand tools.

**Impacts of grant program**

- Increased safety awareness with welding helmets and hand tools within the agricultural shop and facilities.
- Building a stronger technical skills base for our agricultural students through the use of updated skills and equipment.
- Metal fabrication projects were taken on for community members in Agricultural Mechanics classes that included building ramps for a trailer, as well as an Alexander County Schools, sign built and installed at the central office. These projects were tied to the purchase of new hand tools and welding helmets from the grant.

**Grant amount awarded (in \$)**

57,641.27

**Amount spent to date (in \$)**

15,196.31

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

Alleghany High School

**Project Title**

AHS Livestock Project Barn Expansion

**Status of Project**

In Progress

**Activities completed to achieve stated goals**

The Alleghany High School Agriculture Livestock Barn Expansion Project has evolved into an entirely new build due to unforeseen land ownership complications. After securing grant funding for the expansion, it was discovered that the original barn, constructed nearly 20 years ago, was partially located on county property under Federal Partiff Grant restrictions. This issue was identified during the site survey for the new Alleghany High School, revealing that half of the barn was not on land owned by the school, as previously believed.

As a result, we revised our plans. Thanks to the strong support of our agricultural business partners, AHS Agriculture FFA students, and the local community, we have now embarked on the construction of a new 48' x 32' barn, which will include an indoor observation classroom. This new facility will more than double the size of the previous structure, which measured 30' x 40'.

Generous contributions have been made to the project, with business partners donating materials and expertise, the contractor donating labor, and Tri-State Components providing all trusses. AHS Agriculture students have also been heavily involved in ensuring the project's success.

To date, the following activities have been completed:

- Demolition of the old greenhouse and removal of the concrete slab
- Grading of the property
- Digging and setting posts
- Hauling and spreading gravel
- Preparing to set trusses
- We are on track to meet our goals, with the expanded livestock barn set to significantly enhance our Animal Science Program and provide valuable hands-on experience for our students.

**Student outcomes**

Student Learning Outcomes for Agriculture Mechanics I & II:

- Facility Planning and Project Management
- Linked to Agriculture Mechanics I Standard: AM1.01 - Develop skills in project planning and management.
  - Outcome: Students gained practical experience in facility planning by participating in the demolition of the old greenhouse and the reconfiguration of the new barn layout. This hands-on involvement in real-world site planning enhanced their understanding of project coordination, resource allocation, and the importance of timelines.
- Site Preparation and Grading
- Linked to Agriculture Mechanics I Standard: AM1.02 - Demonstrate skills in land preparation, grading, and site selection.
  - Outcome: By participating in the grading of the property and setting posts, students developed key skills in site preparation, including understanding topographical

considerations and ensuring level surfaces. This experience will translate into improved competency in assessing and preparing agricultural land for future facilities.

- Construction Calculations and Material Estimation
- Linked to Agriculture Mechanics II Standard: AM2.04 - Apply mathematical concepts to construction and engineering projects.
  - Outcome: During the digging, setting of posts, and preparation for trusses, students applied construction math skills to measure, estimate, and calculate materials such as gravel and trusses. These calculations were crucial to ensuring the correct structural integrity of the barn, reinforcing real-world applications of classroom learning in construction mechanics.

### **Impacts of grant program**

- Enhanced Agricultural Education Program
  - The construction of the new livestock barn with an observation classroom has expanded the hands-on learning opportunities for students in the Animal Science program. It has provided real-world experience in construction and facility management, aligning with curriculum standards and preparing students for future careers in agriculture.
- Strengthened School-Community Partnerships
  - The involvement of agricultural business partners, community members, and students in the project has strengthened relationships between the school and local industry. Donations of materials and labor from businesses, combined with student participation, have fostered a collaborative environment that benefits both the school and the broader agricultural community.
- Increased Student Engagement and Skills Development
  - The project has provided students with practical experience in various aspects of agriculture mechanics, construction, and environmental stewardship. This hands-on approach has increased student engagement, allowing them to apply theoretical knowledge to real-world projects while developing skills that are directly applicable to careers in agriculture and related industries.

### **Grant amount awarded (in \$)**

36,693.00

### **Amount spent to date (in \$)**

9,406.53

### **Amount spent from other sources to date (in \$)**

0.00



**Program Name**

Asheboro City Schools

**Project Title**

Comet Improvements

**Status of Project**

In progress

**Activities completed to achieve stated goals**

We have purchased items that will be used to enhance hands-on learning in our classes.

**Student outcomes**

- Hands-on learning: Students in our middle school courses have started using the raised garden containers and will continue using them throughout the year as they cover standard 2.00: understand the fundamentals of the plant science industry.
- CASE curriculum in our classes: With the items purchased so far, we have been able to incorporate more CASE lessons throughout our district. Students have been participating in the Agxplore curriculum and more inquiry-based learning.
- Increase understanding of material for FFA competitions: Students have been using items purchased to help prepare and have a better understanding of the material that will be used during FFA CDEs/LDEs throughout the year.

**Impacts of grant program**

- Increased industry-based learning
- Students at one of our middle schools are working with students in our life skills class. They are using one of the garden boxes to teach students in the class how to grow broccoli and lettuce. This allows for more cross-curricular classes and allows students to teach others the importance of agriculture.
- Connects how we are using the items to skills students may use at their jobs or out in the community.

**Grant amount awarded (in \$)**

9,000.00

**Amount spent to date (in \$)**

2,000.54

**Amount spent from other sources to date (in \$)**

0.00



**Program Name**

Camden Middle School

**Project Title**

Middle School Learning Lab

**Status of Project**

In progress

**Activities completed to achieve stated goals**

A down payment for the greenhouse has been made with other funding. We are currently waiting for the concrete to be poured.

**Student outcomes**

None to this point.

**Impacts of grant program**

None to this point.

**Grant amount awarded (in \$)**

25,204.00

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

51,261.25



**Program Name**

Chatham Central High School

**Project Title**

CCHS Enclosed Trailer Grant

**Status of Project**

In progress

**Activities completed to achieve stated goals**

We have purchased the 7'x14' enclosed trailer and recently had vinyl signage installed on the trailer. We are now in the process of designing a shelving system that can be installed in the trailer to make three portable shelves that will run the length and width of the trailer. This will allow us to maximize the quantity of plants we can haul.

**Student outcomes**

- Horticulture I students are learning how to grow and market poinsettias. The plants will be sold to individual customers who will pick up plants at the school. The trailer will be used to haul plants to churches purchasing plants as well as a Holliday Market at Fearington Village in December.
- Agriscience and Horticulture I students are learning how to design materials and develop a bill of materials for the shelving materials. Students have worked in groups to design a modular shelving system that allows us to maximize the volume of the trailer.
- Students are also learning the importance and value of community service. The trailer will be used in the near future (once it receives tags) to transport goods and materials to needy individuals in Western North Carolina.

**Impacts of grant program**

- Our program has received a new trailer that allows us to transport materials in our local community. Once the trailer receives tags and is legally able to be driven on the road, the impacts of the program and our local community will increase.

**Grant amount awarded (in \$)**

9,090.00

**Amount spent to date (in \$)**

9,090.00

**Amount spent from other sources to date (in \$)**

80.00



**Program Name**

Corinth Holders High School

**Project Title**

Pirates Grow AgTech

**Status of Project**

In progress

**Activities completed to achieve stated goals**

- Ordered and received a Kubota Zero Turn Mower
- Ordered and received a Kubota Tractor with a loader
- Ordered Powder Coating System (6-8 Week Lead Time)
- Ordered Spark Robotic CNC Router (8-10 Week Lead Time)

**Student outcomes**

- Twenty-seven students in Agricultural Mechanics II and Horticulture II: Landscaping are certified in the National Safe Tractor and Machine Operation Program.
- Nine students in Horticulture II: Landscaping are trained in the safe use and operation of the zero-turn lawn mower and are currently practicing lawn care techniques.
- One student utilized the tractor to practice the Tractor Driving Course for the Federation CDE.

**Impacts of grant program**

- Provided the opportunity to train and complete the credential for the National Safe Tractor and Machine Operation Program for students in Agricultural Mechanics and Horticulture II: Landscape. (Previously not an opportunity due to not having a tractor on campus.)
- The tractor has been used for cleaning out the livestock barn and chicken coop to help 110 students enrolled in Animal Science courses with weekly tasks.
- Provided the opportunity for students to maintain landscape areas around the greenhouse and animal science learning lab.

**Grant amount awarded (in \$)**

70,853.06

**Amount spent to date (in \$)**

43,884.57

**Amount spent from other sources to date (in \$)**

0.00



**Program Name**

Corriher-Lipe Middle School

**Project Title**

Jackets Growing for the Future

**Status of Project**

In progress

**Activities completed to achieve stated goals**

No activities have been completed toward the specific goals stated in the application. Our construction timeline has been delayed.

**Student outcomes**

Currently, there are no outcomes relating to the goals stated in the application. Our construction timeline has been delayed.

**Impacts of grant program**

- Students demonstrated leadership skills by being interviewed by the Salisbury Post. An article was published with their interviews about their interest in agriculture and excitement about the coming greenhouse.
- Our local contractor and a local architect have been working together with Building Code Enforcement and the town of Landis to positively impact our school community when faced with adversity in the plan.

**Grant amount awarded (in \$)**

100,000.00

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

3,959.00

**Program Name**

Davie County High School

**Project Title - Project 1**

Putting Wheels on School-Based Projects

**Status of Project**

Completed

**Activities completed to achieve stated goals**

We purchased a truck and steel flatbed to attach to the truck.

**Student outcomes**

- 2.00 Understand SAE components: Students have implemented school-based livestock SAE projects. The truck has been used to transport livestock to four shows across North Carolina.
- 7.00 Apply best management practices for food animal handling, housing, and facilities: Students have learned the importance of clean bedding, proper feeding, and veterinary care for animals. The truck has been used to transport feed, shavings/bedding from a local community partner, and transport animals to the veterinary clinic for pregnancy checking.
- 4.05 Apply basics of layout and framing to construct and finish a shop project: Agricultural Mechanics II students designed and built custom racks for the truck's flatbed.

**Impacts of grant program**

- We have been able to increase school-based SAE opportunities for students who otherwise do not have access to livestock at home.
- Students in Agricultural Mechanics II have implemented the design and build process to construct truck extras, including custom racks for the bed.
- We have been able to attend agriculture-based community outreach events, such as Davie Farm Fest, to spread awareness for FFA and agriculture.
- Liability for agricultural teachers has been reduced by eliminating the use of personal vehicles.



**Program Name**

Davie County High School

**Project Title - Project 2**

Davie FFA Food for Friends

**Status of Project**

Completed

**Activities completed to achieve stated goals**

Students planted raised beds and a garden in the spring of 2024. Their harvested produce included sweet peas, onions, potatoes, sweet potatoes, tomatoes, cucumbers, watermelon, cantaloupe, and pumpkin. The garden was not tilled due to the timeframe of funding, but the tiller will be utilized this fall to plant winter cover crops. Fencing supplies are being utilized to keep livestock out of the garden. The freezer is being utilized to store frozen produce, honeybee equipment, and meat from our hog fundraiser.

**Student outcomes**

- Horticulture II
  - 6.00: Students learned and performed tasks of growing and harvesting vegetables according to industry best practices.
  - 2.00: The garden was utilized as a school-based SAE project space for students in Horticulture I and Horticulture II.
- Sustainable Agriculture 3,4,5: Students practiced and applied sustainable agriculture production methods, including installation of efficient irrigation systems, environmentally conscious weed and pest control, and multi-use land management (hogs, sheep, vegetable production).

**Impacts of grant program**

- The garden provided produce that was donated to other teachers, students, and custodians throughout the summer and into the fall.
- Sweet Potatoes that were harvested were used in partnership with the culinary arts program to provide educational workshops and professional development opportunities for teachers in our district. This opportunity to partner with another program helped increase awareness for our agricultural program at Davie County High School.
- The garden and raised beds provided opportunities throughout the summer for students to earn volunteer hours, and even supported our agricultural intern from May to August.
- As part of our sustainable focus, the garden area will be used from October to February as a pasture for our market hogs. The hogs will turn the soil, root out any unharvested produce, and serve as a fundraiser for our agriculture program.
- The garden and plants planted in the area provided increased nectar and pollen sources for our Busy Bee Honey bees housed on campus. This summer, we were able to harvest over 300 lbs of honey as a result. The money earned from honey sales goes directly back into the agriculture program to support student engagement and growth.
- Harvested produce was used in our annual fair booth to increase agricultural awareness. Our fair booth was titled "Agriculture is awesome" and reached over 200,000 community members.

**Grant amount awarded (in \$)**

58,118.91



**Amount spent to date (in \$)**  
58,118.91

**Amount spent from other sources to date (in \$)**  
9006.53



**Program Name**

E.B. Frink Middle School

**Project Title**

Chicken Little

**Status of Project**

In progress

**Activities completed to achieve stated goals**

Students participated in the Coastal Plains Chicken Show in May 2024. They learned about what it takes to raise and show both laying hens and broiler chickens. They are excited to continue our class journey into poultry production by expanding our program. They have also taken the responsibility to research different chicken breeds and poultry products that would be best suited to a school environment.

**Student outcomes**

- Understanding of Poultry Care and Management
  - Course Standard: Animal Husbandry Practices
  - Impact: Students demonstrate proficiency in poultry care techniques, including feeding, housing, and health management. This foundational knowledge prepares them for future roles in agriculture and animal sciences.
- Application of Sustainable Farming Practices
  - Course Standard: Environmental Stewardship in Agriculture
  - Impact: Students learn to implement sustainable practices in poultry production, such as waste management and resource conservation. This outcome fosters a commitment to eco-friendly agriculture and encourages responsible future farming practices.
- Analysis of Economic Viability in Poultry Production
  - Course Standard: Agricultural Economics
  - Impact: Students conduct cost-benefit analyses and market research related to poultry farming. This skill enhances their ability to make informed business decisions and promotes economic sustainability in their future careers in agriculture.

**Impacts of grant program**

- Enhanced Curriculum and Resources
  - Impact: The grant has provided funding for updated equipment and materials, allowing for hands-on learning experiences in agricultural education. This enriches the curriculum and better prepares students for careers in agriculture.
- Increased Student Engagement and Enrollment
  - Impact: The program has sparked greater interest in agricultural education, leading to higher student enrollment and participation in related extracurricular activities. This fosters a sense of community and connection to agricultural practices among students.
- Strengthened Community Partnerships
  - Impact: The grant has facilitated collaborations between the school and local farms, businesses, and agricultural organizations. These partnerships create internship opportunities and real-world learning experiences, benefiting both students and the local economy.

**Grant amount awarded (in \$)**

2,926.84

**Amount spent to date (in \$)**  
0.00

**Amount spent from other sources to date (in \$)**  
0.00

**Program Name**

East Wilkes High School

**Project Title**

EWHS Ag Mechanics Shop Improvement

**Status of Project**

In progress

**Activities completed to achieve stated goals**

- In June, I attended a training by Lincoln Electric on the plasma table that was offered in North Carolina.
- We have acquired a Lincoln Electric 4800 Plasma table, Engraver, Flexcut80 Plasma cutter, and 4000TC Pipe cutter. A laptop for the CAD software has been ordered as well.

**Student outcomes**

- Agricultural Mechanics II Standard 3.00: Apply shop safety skills in the agricultural shop.
  - Students understand how to organize an agricultural mechanics shop to maximize safety, space, and efficiency.
- Agricultural Mechanics II Standard 4.00: Apply metal fabrication skills in the agricultural shop.
  - Students understand how to receive, unpackage, set up, and operate new CNC equipment.
- Agricultural Mechanics II Standard 4.00: Apply metal fabrication skills in the agricultural shop.
  - Students demonstrated MIG welding and fabrication skills by constructing metal racks to help organize materials in our shop.

**Impacts of grant program**

- Agricultural Education program
  - While we are still waiting to get the machine wired and hooked up, students have seen projects I completed at the summer training and are excited about the opportunity to create personalized projects this semester. One student has plans to construct a utility trailer and cut out the name of his family farming business with the plasma table to attach to the trailer. This semester, I have two full Agricultural Mechanics classes with fifty students in total.
- School
  - Along with many other school improvements, it has been good to see that the agriculture shop is getting this equipment as well to help improve classroom instruction and student learning opportunities. We have shared pictures on social media of the equipment when it arrived.
  - The softball team won the 1A State Championship this spring and the Coach and I are working to get an aluminum "E" and "W" sign cut out and attached to the softball press box that has been recently renovated.
- Community
  - So far, we have three projects to create for local community members. One is for a small farm, one is for a church, and one is for a small business.
  - We have attended a board meeting with Wilkes County Farm Bureau and have made them aware that we have received the grant and are willing to work with farms and businesses in our community.

- We are discussing ways in which we may be able to create projects to help fundraise for disaster relief in Western North Carolina following Hurricane Helene.

**Grant amount awarded (in \$)**

79,218.52

**Amount spent to date (in \$)**

74,497.59

**Amount spent from other sources to date (in \$)**

6,995.48

**Program Name**

Gates County High School

**Project Title**

Brighten the Agricultural Shops

**Status of Project**

Completed

**Activities completed to achieve stated goals**

Vancelectric has replaced the lights in the agricultural mechanics and horticulture shops at Gates County High School. Replacing the overhead lights with new LED lights has increased the visibility in both of the shops. Since being back in school, the students have noted how both shops are much brighter. The Agricultural Mechanic students have recently started their Nut and Bolt project. It is amazing to see the difference good lighting in the shop makes, especially with the efficiency of students completing their projects. New outlets were also added, which had previously been removed when new welding booths were installed in 2018. When a student was grinding a piece of metal that needed to be welded, he was able to plug it into a short extension cord and continue with his work. Also, it has been a great advantage to have a 3-way switch at the rear exit doors of both of the shops. Now anyone who enters or exits out of the rear exit doors can turn the lights off.

**Student outcomes**

- Agricultural Mechanics I – Objective 3.02 Apply safe work practices when setting up, adjusting, and using hand and power tools.
  - Students can view the spurs on their nut and bolt project and use a flat file efficiently in any area of the agricultural mechanics shop.
- Agricultural Mechanics II – Implement a Supervised Agricultural Experience (SAE).
  - This was a surprise for the student learning outcome because one of the students who completed Agricultural Mechanics II last school year was working for Vancelectric, helping to wire the new lights in the shop. This was a great service for this student to be able to give back to his school.
- Horticulture II – Objective 6.01 Implement vegetable production practices.
  - Students planted microgreens for a project with vegetable production. Students could view each of the seeds that were planted for Microgreens and were able to spread the seeds over the growing media.

**Impacts of grant program**

- Students are more focused on their work as they go into the Agricultural Education shops. They can see that I value the space and put work into it to make it better for them, in turn, they put forth better effort in the projects they are completing.
- The horticulture shop is used as a place for residents to house their animals during a natural disaster. Putting a 3-way switch at the rear exit doors gives these people using the shop as a shelter a way to turn the lights on and off.
- Some students want to work in the Agricultural Mechanics shop to fix items around the school. I asked a student to weld a broken table leg for an Elementary School. He fixed the leg and now is fixing a chair for a teacher. Before the new lighting, students' ability to see their work greatly impacted their work ethic. Now this student is willing to complete additional projects because he wants to learn and is enjoying what he has accomplished.

**Grant amount awarded (in \$)**

17,609.45

**Amount spent to date (in \$)**

17,609.45

**Amount spent from other sources to date (in \$)**

829.95



**Program Name**

Jones Senior High School

**Project Title**

Hands-On Animal Science Barn

**Status of Project**

In progress

**Activities completed to achieve stated goals**

- We have talked to our maintenance department and had the area cleared for plans as of October 1, 2024.
- Site preparation was completed on April 1, 2024.
- We have reached out to three companies/individuals for quotes on well drilling, as this must be completed first. We have one estimate in and received a second one as recently as October 4, 2024. We are in the process of answering questions before we can move forward with plans.
- We have reached out for quotes on barn structures with three different companies.

**Student outcomes**

- Agricultural Mechanics I students have helped with site prep and and layout of a building using the 3-4-5 Layout Method.
  - AS31 4.01 - Students were able to see content into play by planning the layout while taking into account plumbing, electrical, and concrete requirements.
- Animal Science II students have helped with ideas for facilities.
  - AA22 7.01 - Students have taken into consideration animals being placed into barns as well as needed spaces for storage, kidding, sick pens, etc.
- Exploring Plant & Animal Science middle school students have also been able to be a part of the learning process, as we have learned about the various types of animal production industries.
  - AY21 1.01-1.03 - Students were able to see the requirements of various livestock animals and understand their benefit to consumers, while also knowing that there are rules for welfare to keep them healthy and safe.

**Impacts of grant program**

- This project will give our Animal Science II: Food Animal Honors class valuable hands-on instruction for class and PBMs when caring for, handling, evaluating, and managing livestock.
- This project will be utilized in conjunction with our local 4-H group where we can house our chicken broiler project for showman.
- This project gives our stakeholders an example of what hands-on learning is like in the agriculture department, as well as the opportunity to see what the students are learning in classes.

**Grant amount awarded (in \$)**

30,125.18

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

0.00



**Program Name**

Lakewood High School

**Project Title**

AgriRevitalize Facility Upgrade Initiative

**Status of Project**

In progress

**Activities completed to achieve stated goals**

This project revitalized Lakewood High School's agricultural mechanics shop with new, cutting-edge equipment and enhanced the school's greenhouse by installing updated polycarbonate panels, cool cells, shade cloth, and tables.

**Student outcomes**

This project will empower students with modern tools, fostering innovation and sustainability.

**Impacts of grant program**

- The upgraded facilities will provide students with improved hands-on learning experiences.
- The new equipment will help prepare students for future careers in agriculture while promoting the most up-to-date industry practices.
- The updated equipment will increase the efficiency of instruction as well as student safety.

**Grant amount awarded (in \$)**

99,886.97

**Amount spent to date (in \$)**

99,186.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

Ledford High School

**Project Title**

From Classroom to Career

**Status of Project**

In progress

**Activities completed to achieve stated goals**

Delayed - The Treasurer has been on medical leave.

**Student outcomes**

Delayed - The Treasurer has been on medical leave.

**Impacts of grant program**

Delayed - The Treasurer has been on medical leave.

**Grant amount awarded (in \$)**

69,813.14

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

Midway High School

**Project Title**

Expanding Our Horizons

**Status of Project**

In progress

**Activities completed to achieve stated goals**

At this time we have not begun work on our grant. The funding didn't come until late in the summer when we were traveling with students or attending professional development activities. Also, at the beginning of the school year, we decided to initiate our project in cooler weather after we completed our back-to-school activities. We plan to begin work on this grant after our return from National Convention.

**Student outcomes**

At this time we have not begun work on our grant. The funding didn't come until late in the summer when we were traveling with students or attending professional development activities. Also, at the beginning of the school year, we decided to initiate our project in cooler weather after we completed our back-to-school activities. We plan to begin work on this grant after our return from National Convention.

**Impacts of grant program**

At this time we have not begun work on our grant. The funding didn't come until late in the summer when we were traveling with students or attending professional development activities. Also, at the beginning of the school year, we decided to initiate our project in cooler weather after we completed our back-to-school activities. We plan to begin work on this grant after our return from National Convention.

**Grant amount awarded (in \$)**

16,522.17

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

Monroe High School

**Project Title**

Monroe Tractor

**Status of Project**

In progress

**Activities completed to achieve stated goals**

We have not yet received the tractor. The purchasing has finally been processed and has been sent to Brook Sales Equipment. We are waiting to find out when they can deliver. I was required by my county to get more quotes from other businesses.

**Student outcomes**

We have not yet received the tractor. The purchasing has finally been processed and has been sent to Brook Sales Equipment. We are waiting to find out when they can deliver. I was required by my county to get more quotes from other businesses.

**Impacts of grant program**

We have not yet received the tractor. The purchasing has finally been processed and has been sent to Brook Sales Equipment. We are waiting to find out when they can deliver. I was required by my county to get more quotes from other businesses.

**Grant amount awarded (in \$)**

29,900.00

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

Mount Pleasant High School

**Project Title**

Livestock Transportation Vehicle

**Status of Project**

In progress

**Activities completed to achieve stated goals**

None as of now.

**Student outcomes**

None as of now.

**Impacts of grant program**

None as of now.

**Grant amount awarded (in \$)**

79,683.00

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

North Carolina School for the Deaf

**Project Title**

Signs of Horticulture Advancement

**Status of Project**

In progress

**Activities completed to achieve stated goals**

- Purchase orders were made for all items included in the grant proposal.
- Ten of the fifteen items have been both purchased and received.
- Due to a pending purchase order, the remaining items have either been purchased and not yet received, or not purchased yet.
- All safety improvements were made to the existing utility vehicle with a roof, windshield, roll-cage, seat belts, and mirrors being installed.
- The hydroponic towers (the grant was written for one, we were able to get two) were set up and are in full operation as of now.
- Six raised beds have been constructed with the help of community members.
- All existing and new raised beds have been filled with peat moss and perlite.

**Student outcomes**

- High School and Middle School students were educated on different forms of hydroponic systems and helped construct the two hydroponic towers.
  - 3.02 Explain factors that influence plant growth and development.
  - 4.03 Apply the process to identify essential nutrients needed for plant growth.
  - 7.01 Compare garden, greenhouse, and nursery production practices.
- Elementary and High school Deaf Plus classes, learned about the different plants that can be grown hydroponically. Students helped to plant/install each seed cube in both hydroponic towers.
  - 4.02 Apply the process to identify optimum soil and media for plant growth.
- Students helped community members construct the raised beds.
  - 7.01 Compare garden, greenhouse, and nursery production practices.

**Impacts of grant program**

- Community members engaged with students in the construction of six raised beds.
- Students worked together to construct two fully functioning hydroponic towers, that are actively producing a variety of plants.
- All safety improvements were made to the existing utility vehicle.

**Grant amount awarded (in \$)**

9,385.00

**Amount spent to date (in \$)**

5,185.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

North Forsyth High School

**Project Title**

North Forsyth: Regrowing AG

**Status of Project**

In progress

**Activities completed to achieve stated goals**

None to this point.

**Student outcomes**

None to this point.

**Impacts of grant program**

None to this point.

**Grant amount awarded (in \$)**

25,546.25

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

North Iredell High School

**Project Title**

Natural Resources Experiential Learning Equipment

**Status of Project**

In progress

**Activities completed to achieve stated goals**

We have purchased the 7' Remlinger Seed Drill and are in the process of scheduling a training session with the technicians at James River Equipment in Statesville, NC. We have submitted the deposit to order the LT40 Woodmizer Sawmill. Manufacturing has started on this machine and Woodmizer of the Carolinas will be keeping us informed about its arrival date.

**Student outcomes**

- Students have learned to identify common seed drill parts.
- Students are learning to calculate seed deposit rates and how to change planting discs.
- Students are scheduling themselves to utilize the drill in their SAE projects via a Chapter Collective Calendar.

**Impacts of grant program**

- Students are engaged and excited about topics related to the new equipment.
- Alumni are starting to schedule times to utilize the equipment and assist with student SAE's.
- This tool is already helping repair pastures for community members.

**Grant amount awarded (in \$)**

75,769.69

**Amount spent to date (in \$)**

30,356.25

**Amount spent from other sources to date (in \$)**

0.00



**Program Name**

Northwest Cabarrus High School

**Project Title**

Work Truck Acquisition

**Status of Project**

In progress

**Activities completed to achieve stated goals**

None to this point.

**Student outcomes**

None to this point.

**Impacts of grant program**

None to this point.

**Grant amount awarded (in \$)**

93,652.00

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

Pender High School

**Project Title**

Experiential Learning Facility for Animals

**Status of Project**

In progress

**Activities completed to achieve stated goals**

- Quotes have been received for tractor purchase and we are waiting on the school board's approval for the actual purchase of the tractor.
- Quotes have been obtained for the purchase of a 24'x30' building for livestock. Submitting a request for approval to the school board on Oct. 8
- A quote has been obtained for the purchase of a bale spear. We are waiting to purchase this until the tractor is received.
- The quote has been obtained for electricity to the building. We are waiting for the building to be constructed.
- The quote has been obtained for fans and once again are waiting for the building to be constructed.
- A building permit has been obtained from the school system and did not cost the grant any money.

**Student outcomes**

- Students have had a hand in obtaining quotes for the equipment and buildings.

**Impacts of grant program**

- 45 students assisted in creating the design for the building.
- 60 students had input on options for the tractor.
- 39 students have had input on the animals for the livestock facility as well as the interior pen design.

**Grant amount awarded (in \$)**

99,161.58

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

Perquimans County High School

**Project Title**

Growing Success

**Status of Project**

In progress

**Activities completed to achieve stated goals**

A contract is in place with Stuppy Greenhouse, the materials have been purchased, and we are waiting for our permit to begin site prep work.

**Student outcomes**

The project has not been completed at this time to measure student learning outcomes.

**Impacts of grant program**

We are still working to complete the project at this time.

**Grant amount awarded (in \$)**

98,797.43

**Amount spent to date (in \$)**

98,797.43

**Amount spent from other sources to date (in \$)**

26903.44

**Program Name**

Polk County High School

**Project Title**

Turf It Up

**Status of Project**

In progress

**Activities completed to achieve stated goals**

All purchase requests have been sent to James River Equipment in Shelby, North Carolina. They are waiting on John Deere Corporate to complete the transaction. Currently, we are just waiting on them.

**Student outcomes**

None at this time.

**Impacts of grant program**

None at this time.

**Grant amount awarded (in \$)**

15,000.00

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

Riverside High School

**Project Title**

MarCo Innovative Greenhouse

**Status of Project**

In progress

**Activities completed to achieve stated goals**

Activities have not been able to be completed as the greenhouse is not slated to be finished until the end of October.

**Student outcomes**

Students will not be impacted by the project until 2nd semester as the greenhouse is slated to be completed by the end of October. Students have taken pride in the structure by assisting with rock movement, erosion prevention, leveling, and measurements as the structure is being completed.

**Impacts of grant program**

- Agricultural Awareness: Since our greenhouse is still in the stages of being built, our community has become aware that we are getting one and showing interest in plant sales!

**Grant amount awarded (in \$)**

96,724.86

**Amount spent to date (in \$)**

1,560.00

**Amount spent from other sources to date (in \$)**

0.00



**Program Name**

South Granville High School

**Project Title**

Livestock Barn

**Status of Project**

In progress

**Activities completed to achieve stated goals**

We are at the start of getting the site ready for installation.

**Student outcomes**

- Students helped develop a mock building layout and materials.
- Students worked with the general contractor to think through how to do the site work and groundwork.
- Students helped to address the biosecurity impact we could face with student foot traffic.

**Impacts of grant program**

- Helps support a former South Granville High School student and local businesses.
- Helps strengthen community partnerships.
- Helps strengthen our animal science program and hands-on opportunities.

**Grant amount awarded (in \$)**

100,000.00

**Amount spent to date (in \$)**

7,470.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

South Rowan High School

**Project Title**

Land Laboratory Equipment For Research

**Status of Project**

Completed

**Activities completed to achieve stated goals**

The equipment was ordered, delivered, and paid for by Rowan Salisbury Schools. All equipment has been assembled and four beds have been pulled currently.

**Student outcomes**

- Students were able to follow plans to assemble the equipment.
- Students were able to troubleshoot the equipment set up to create the desired beds needed for strawberry production.
- Students were able to participate in planting strawberries using the transplanter, which will create uniform spacing.

**Impacts of grant program**

- Students will be able to pull beds identical to the beds used in industry to produce vegetable crops.
- This equipment will also allow students to plant vegetable crops with precision spacing to produce the highest quality crop possible.
- This equipment will install drip tape so irrigation needs for the planted crops can receive water and nutrients.

**Grant amount awarded (in \$)**

10,908.65

**Amount spent to date (in \$)**

10,908.65

**Amount spent from other sources to date (in \$)**

0.00





**Program Name**

South Stokes High School

**Project Title**

Project Green Thumb

**Status of Project**

In progress

**Activities completed to achieve stated goals**

A locating service came out and located all utilities in the area. The water, propane, and electrical have been disconnected. The old greenhouse has been dismantled and disposed of. An updated greenhouse quote has been obtained and signed by the Financial Director and preliminary plans have been provided by Atlas Greenhouses. On September 6, 2024, our Maintenance Director, Richie Roberts, submitted the quote, preliminary plans, and a DPI design review form to Teri Williams with School Planning at NCDPI. Per Mr. Roberts's direction, we are awaiting a response before proceeding with placing the greenhouse order.

**Student outcomes**

- AP41 Horticulture I, standard 2 Apply work-based and experiential learning in horticulture
  - Students are seeing one big agricultural experience that the agricultural program at South Stokes High School is going through. This has provided a great example to guide students as they work on their individual SAE projects.
- AP41 Horticulture I, standard 7 Apply plant production in horticulture
  - Students gained firsthand knowledge about the considerations involved in planning features for a new greenhouse and how they relate to plant production processes.
- AU10 Foundations of Agriculture, standard 3.00 Understand the plant industry
  - Students have learned about the basic horticultural and agronomic principles and practices and how they would apply to plant production when using specific tools like the new greenhouse.

**Impacts of grant program**

- The enthusiasm within the agriculture program at South Stokes continues as the teacher, students, and FFA members eagerly await the completion of the greenhouse. Students and FFA members who helped with the demo of the old greenhouse were especially enthusiastic.
- The school and district have been impacted financially as they did not have the funds to purchase and install a new greenhouse at the school. The grant has been well received with much appreciation to the state and the FFA!
- The community has stepped up with many offerings of help from free labor, a dumpster donation, and financial donations through the South Stokes High School FFA Alumni Association.

**Grant amount awarded (in \$)**

100,000.00

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

1,200.00



**Program Name**

Southern Nash High School

**Project Title**

Agricultural Accessibility Opportunities

**Status of Project**

In progress

**Activities completed to achieve stated goals**

- The truck was used four times to pick up livestock feed locally for our sheep and driven to Sampson County for our dairy heifer feed.
- The truck was used to haul horses from Mrs. Manning's home barn to our school pasture.
- The truck was used to haul materials to the Wilson County Fair for our chapter fair booth.
- The truck was used for a trailer release demonstration for Animal Science 1 students.
- The truck was used to pick up a new flatbed trailer.
- The truck was used to practice for the Truck Driving CDE.

**Student outcomes**

- Safely transport horses from their home barn to be used at our Southern Nash facility for Equine classes. Equine Equipment & Facilities Module (Equine Science II: Equine Management Certification)
- Obtain lab materials from local suppliers for student use. (6.00 Equine) (4.00 Ag Mechanics) (5.00 Horticulture II: Landscaping)
- Students used the truck for practice for the Truck Driving Career Development Event (1.0 Animal Science I) ( 1.0 Equine Science I)

**Impacts of grant program**

- More efficient use of time and chapter resources.
- Easily accessible equipment when needed.
- Reduction in personal equipment being used for school/chapter activities.

**Grant amount awarded (in \$)**

61,670.28

**Amount spent to date (in \$)**

57,989.8

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

Sun Valley High School

**Project Title**

Sun Valley Gator

**Status of Project**

In progress

**Activities completed to achieve stated goals**

Ordered and received the John Deere HPX615 gator to be used in the Sun Valley agriculture Program.

**Student outcomes**

- We have used the gator to help move garden media for our new raised beds on campus. (Horticulture I Obj. 7.02)
- We have also used the gator to relocate gravel and stepping stones that are being used to create a new walkway to the raised beds. (Horticulture I Obj. 7.02)
- Started designing a training course that will be used to instruct students on the safe operation of the gator. (Agricultural Mechanics II Obj. 5.03)

**Impacts of grant program**

- The gator has helped to increase the community awareness of the agriculture program because we have promoted the local dealer at several of our sporting events.
- The gator has been used to help with our community collections for Hurricane Relief in Western North Carolina.
- The delivery of the gator has created more interest in our Agriculture Mechanics program and we hope that this carries over into the spring when students register for classes for the 25-26 school year.

**Grant amount awarded (in \$)**

15,630.44

**Amount spent to date (in \$)**

15,630.44

**Amount spent from other sources to date (in \$)**

615.75

**Program Name**

Vance County High School

**Project Title**

Vance Count Greenhouse

**Status of Project**

In progress

**Activities completed to achieve stated goals**

The project is going to the Vance County Schools Board of Education for approval on 10/7/2024.

**Student outcomes**

- 1.00 Apply leadership and durable skills
  - Students have been able to provide leadership as one of the major skill competencies for this project by utilizing their critical thinking skills to inform ideas for the use of the greenhouse and effective solutions for the challenges that have already been faced in the planning stage while awaiting board approval.
- 1.00 Apply leadership and durable skills
  - Students have been able to engage in dialog with peers regarding best practices, leadership, and high-level communication skills.

**Impacts of grant program**

- Student Collaboration: Provided opportunities for students to improve discourse skills.
- Student Communication: Enhanced opportunities for students to communicate.

**Grant amount awarded (in \$)**

80,941.63

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

Wake County Public Schools

**Project Title**

Expanding Hands-on Learning Opportunities

**Status of Project**

In progress

**Activities completed to achieve stated goals**

- For the Apex Friendship portion of the grant, Mr. Edmonds and district leadership continue to engage with various vendors on the purchase of the mobile grooming trailer. We are working with vendors that can meet the needs of the curriculum implementation as well as our Risk Management department to select a trailer that is appropriate for the grant and acceptable for the outlined goals.
- For the Millbrook Greenhouse project, we have completed survey work at the proposed greenhouse site. A pre-bid meeting was held last week with interested contractors for the project. The bids are due to our Facility Design and Construction Department by October 22nd.
- For the Rolesville High School outdoor learning lab, the process of identifying future purchases of livestock for the outdoor learning facility has begun. Agriculture education teachers have started the process of surveying students to determine what livestock the students would like to exhibit in the spring. Based on the options given to the students, the students have been engaged in designing a facility on campus to meet the animal facility and housing needs.

**Student outcomes**

- Students at Apex Friendship High School have been involved in learning Veterinary Science skills related to the Veterinary Technician certification so that they will be prepared to implement the functionality of the mobile grooming trailer once it arrives. (Vet Assisting 5.01)
- Students at Millbrook High School have been involved in the design of the greenhouse - including site work, location of the greenhouse, and controls. (Horticulture II 3.01, 3.02)
- Students at Rolesville High School have been involved in the design portion of the outdoor learning lab. (Animal Science I 7.02)

**Impacts of grant program**

- The overall impact at Apex Friendship High School is that the process has engaged different support groups in a variety of ways. Mr. Edmonds has used the opportunity to bring together his school administration team to visit another Animal Science program in WCPSS so that the administration can see an existing animal science program with animals on campus. This is instrumental in the implementation of the mobile grooming trailer once it is delivered.
- The overall impact at Millbrook High School is that the program has benefited from the process of erecting the new greenhouse, by the Agricultural Mechanics and Horticulture students being on campus during survey work, pre-bid construction meetings, and other related work, students see firsthand the process it takes to erect a commercial growing facility.
- The overall impact at Rolesville High School is the school and program vision casting as it relates to work-based learning opportunities at the school.

**Grant amount awarded (in \$)**

100,000.00

**Amount spent to date (in \$)**

7,800.00

**Amount spent from other sources to date (in \$)**

0.00



**Program Name**

Waynesville Middle School

**Project Title**

Plant Micropropagation Lab Creation

**Status of Project**

In progress

**Activities completed to achieve stated goals**

We have purchased the storage refrigerator and now we are working on purchasing the equipment. Our largest budgeted item, the Laminar Flow Hood takes six to eight weeks to deliver. I am also currently working on the basic curriculum. All other future purchases will be from Amazon and online vendors.

**Student outcomes**

- I do not have all the equipment yet due to manufacturing and shipping times. Also, my school system has been closed for the past eight school days and will be closed for at least another week. However, these are our future student outcomes:
  - Students will master the fundamentals (NCCTE.AU02.01.00) of the Advanced Agricultural Practices of Plant Tissue Culturing, by learning about plant anatomy, different types of growth mediums, and grow light systems. Students will learn to proliferate plants' axillary buds from shoot tip cultures and also shoots from leaves, stems, roots, and seeds.
  - Students will also learn the social & economic importance (NCCTE.AU02.02.00) of Plant Tissue Culturing, especially in developing countries that desperately need the production of disease-free, high-quality planting material, and rapid growth of uniform plants to address food insecurity.
  - Plant micropropagation offers a powerful tool for advancing environmental stewardship (NCCTE.AU0 2.04.00) when implemented with careful consideration and responsible practices. It can play a significant role in conservation, sustainable agriculture, and adaptation to environmental challenges by reducing energy consumption and conserving rare or even endangered plants.
  - Plant Tissue Culturing will better help students understand the role of science and technology (NCCTE.AU02.08.00) by learning about the conservation of endangered species and rapid propagation, enhanced food security producing higher crop yields, development of climate-resilient crops, and reduced deforestation.
  - This project will introduce 330 students each year to micropropagation that offers a powerful platform for enriching students' education, providing immediate learning opportunities, and planting the seeds for long-term intellectual growth, environmental awareness, and potential career paths in STEM fields. By integrating micropropagation into our Agriculture curriculum, WMS can cultivate the next generation of scientists, innovators, and responsible citizens who will contribute to a sustainable and brighter future.

**Impacts of grant program**

- These are future impacts once I receive all the equipment for the labs:
  - Development of Practical Skills: Students gain valuable laboratory skills like tissue culture techniques, data analysis, and equipment operation. These skills are transferable to

various careers in science, agriculture, and biotechnology, increasing their employability and future earning potential.

- Enhanced Confidence and Self-Esteem: Successfully propagating plants in a controlled environment fosters a sense of accomplishment and builds confidence. Additionally, working collaboratively on projects within the lab promotes teamwork, communication, and leadership skills, further boosting self-esteem.
- Connecting Education to Real-World Issues: Micropropagation directly addresses environmental challenges like deforestation and endangered species conservation. This allows students to see the real-world applications of their learning and fosters a sense of social responsibility.

**Grant amount awarded (in \$)**

21,000.22

**Amount spent to date (in \$)**

1,118.99

**Amount spent from other sources to date (in \$)**

0.00

**Program Name**

West Rowan High School

**Project Title**

Operation Cleanup

**Status of Project**

In progress

**Activities completed to achieve stated goals**

The skid steer and parts washer has been purchased and delivered. The skid steer invoice has been received but I am still waiting on the invoice from Hotsy Denver for the parts washer.

**Student outcomes**

- (AS31- 3.0) Apply shop safety skills in the agriculture shop.
  - Students were shown proper safety and operational practices for the new skid steer. The local John Deere representative walked us and the students through all safety aspects, operational aspects, and general maintenance of the new machine.
- (AS32 - 5.0) Apply the use of agricultural power in agricultural mechanics.
  - Students were taught the general operational principles behind hydraulics and their use.
- (AA22 - 7.0) Apply best management practices for food animal handling, housing, and facilities.
  - Students utilized the skid steer to keep our facility clean and free of waste.

**Impacts of grant program**

- Barn Clean-Out After the Flood
  - The skid steer was vastly superior in assisting in the maintenance of our facility. It allowed our students the ability to work and efficiently.
- Facility Grading
  - After the flood, we were able to utilize the equipment to regrade our topography to divert water away from our facilities.
- Feeding
  - The skid steer has replaced our small tractor with the normal operations of agriculture feeding, unloading feed by the ton, and other common tasks.

**Grant amount awarded (in \$)**

87,026.69

**Amount spent to date (in \$)**

87,026.69

**Amount spent from other sources to date (in \$)**

6,872.34



**Program Name**

Whiteville High School

**Project Title**

Growing the Next Generation

**Status of Project**

In progress

**Activities completed to achieve stated goals**

The Growing the Next Generation project is in the final stages of planning and preparation. Currently, we have conducted several activities to help reach the main project goal of building and installing a modernized greenhouse at Whiteville High School.

- Needs Assessment
  - Several meetings have been held with the system Superintendent, CTE Director, and Facilities Director to determine the specific needs of an improved horticulture program at the school. The meetings have resulted in general baseline specifications for the greenhouse including irrigation, heating, size, electrical, etc. One of the major outcomes of these meetings has been the discussion to ensure this greenhouse is fully ADA-compliant to meet the needs of all students on campus.
- Design & Planning
  - We have worked with two main greenhouse companies that are accessible to North Carolina: Stuppy's Greenhouse & Atlas Greenhouse. These companies were able to help finalize all building plans and offer competitive quotes for their products.
  - Site selection has been an easy process. Recently, Whiteville High has undergone a major construction project by building a new school. This project removed an old classroom trailer which freed up a major outdoor space near the agriculture classroom. This site currently has city water and electrical hookups. We have also received two quotes from local contractors who will be in charge of site prep, electrical, and plumbing work.
- Final Approval
  - All quotes and bids have been closely evaluated and considered. At this time, we have decided to work with Atlas Greenhouse for the purchase of the 24x48 Educational Greenhouse Kit. Two local contractors have been contacted and have received information regarding site prep and greenhouse installation. As of today, October 8, we are still waiting for a finalized quote from one of the contractors. Once that second quote is received this information will be passed to the Whiteville City Schools Board of Education for approval at the next board meeting. Once the final approval is given, the process of purchasing the greenhouse kit and site preparation can officially begin.

**Student outcomes**

- Students enrolled in the Horticulture courses offered during the spring semester:
  - AP42 3.01: Implement components needed to operate and maintain a greenhouse
    - Spent time researching the different greenhouse structures offered by approved companies
    - Students evaluated the location for the construction project to select a greenhouse kit that maximizes available growing space.
    - Students researched equipment and controls utilized in modern greenhouse production.

- AP42 2.01: Apply records used in work-based and experiential learning
  - Used their knowledge of greenhouse requirements to select a kit that was within our current budget of \$126,858.
  - Students were able to select several greenhouse kits that best fit the needs of our school based on program size and budget.

**Impacts of grant program**

- Although this project is in the final stages of planning and approval, the project impacts have been obvious.
  - Students enrolled in the Spring 2024 Horticulture courses were able to share in the initial excitement of being awarded the grant. Class projects were implemented that allowed them to research greenhouse facilities and equipment which fostered a deeper understanding of greenhouse production as well as ownership in the total project.
  - Enrollment in the horticulture courses offered at WHS has increased by 35%.
  - One goal of this project was to benefit our local community and economy by hiring a local contractor for site preparation, water & electrical hookup, and any additional construction needs. We have worked closely with two local contractors securing bids that when selected will benefit Columbus County by keeping funds within the community and by creating jobs.

**Grant amount awarded (in \$)**

100,000.00

**Amount spent to date (in \$)**

0.00

**Amount spent from other sources to date (in \$)**

0.00