NATIONAL
FFA ORGANIZATION

Agricultural Proficiency Awards

# Example Application

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## NOTE:

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# Environmental Science & Natural Resources Placement

# National Proficiency Application

Environmental Science and Natural Resources Management

**AA**

AA0001

550000000

Entrepreneurship vs Placement Percentage

Entrepreneurship: **0%** Placement: **100%**

## Applicant Information

Applicant Name

Sarah E. Smith

Chapter Name

Anywhere FFA Chapter

## Statement of Candidate and Parent/Guardian

We have prepared this application and certify that the records are true, complete and accurate and we hereby permit for publicity purposes the use of any information included in the application with the exception of the following:

| | |
|---|---|
| Date | Parent/Guardian Signature |
| Date | Candidate's Signature |

## Certification

We have verified the application and find that the statements contained herein are such that we are able to recommend him/her for the Degree/Award. Furthermore, we verify that he/she has conducted themselves in a manner to be a credit to the organization, chapter, school and community.

| | |
|---|---|
| Date | Chapter Advisor Signature |
| Date | Superintendent or Principal Signature |
| Date | Employer Signature (Placement applicants only) |
| Date | State Advisor or State Executive Committee Signature |

# National Proficiency Application
Basic Award Setup Information

## I. Application Dates

Began Agricultural Education
8/10/2011

Application Ending Date
12/31/2014

## II. Proficiency Type

Proficiency Type
Environmental Science and Natural Resources Management

Entrepreneurship vs Placement Percentage
Entrepreneurship: **0%** Placement: **100%**

Primary Pathway of SAE
Environmental Service Systems

## III. Assets

| **1. Current/Operating Assets** | Value at Beginning Date | Value at Ending Date |
|---|---|---|
| a. Current/Operating Inventory (Entrepreneurship Experiences) | | Itemized ending inventory values are reported on "Ending Current Inventory" page. |
| 1. Investment in harvesting and growing crops | **$0** | |
| 2. Investment in feed, seed, fertilizer, chemical, supplies, prepaid expenses, and other current/operating assets | **$0** | |
| 3. Investment in merchandise, crops and animals purchased for resale | **$0** | |
| 4. Investment in raised market livestock & poultry | **$0** | |

| **2. Non-Current Inventory** | Value at Beginning Date | Value at Ending Date |
|---|---|---|
| a. Investment in non-depreciable draft, pleasure, and breeding animals | **$0** | Itemized ending inventory values are reported on "Ending Non-Current Inventory" page. |
| b. Investment in depreciable draft, pleasure, and breeding animals | **$0** | |
| c. Investment in depreciable machinery, equipment, and fixtures | **$0** | |
| d. Investment in depreciable land improvements, buildings, and fixtures | **$0** | |
| e. Investment in land | **$0** | |

**1. Briefly explain your SAE and how it related to this award area.**

My SAE consists of the development, implementation, and communication of a water quality study exploring the environmental impacts of nonpoint source pollution in my community that began my freshman year of high school. My mom became sick my freshman year, and I naturally wanted to know why so that I could find a solution. When my honors chemistry teacher informed my class about an opportunity to participate in our school wide agriscience fair, I leaped at the opportunity to apply the science I learned in his classroom to real world problems, which were in my case, my mother's sickness. Stuffed with ideas of odd mutations and crippling illnesses caused by pollution, I turned the fictitious research I had seen in animated films like "Nemo" into a real-life exploration of water quality in my backyard. I believed that something—or someone was polluting our water: farmers. My ignorance of farming practices in my community was crippling-- but only at first as my first hypothesis soon developed into a personal quest for a better understanding of farming practices in my community and the scientific evidence that would point me toward the truth. Each project has tackled a different issue: first, what types of pollution impact my community and how those pollutants can be traced; second, how is this pollution prevented and whether the methods farmers have established are effective; and, third, how does urban nonpoint source pollution compare to rural nonpoint source pollution.

**2. Briefly explain how your roles, responsibilities, and/or management decisions related to this award area changed.**

There were two major changes in my roles and responsibilities throughout my SAE. The first was the transition from being the STUDENT, learning everything I could from my research and experimentation, to being the TEACHER, developing effective communication skills and demonstrating my knowledge of best management practices and nonpoint source pollution to various groups and organizations. At first, I relied heavily on my agriculture teacher Miss Jones to provide me with accurate information and guide the project. As time passed, I became more comfortable with the material and took over most of the research and experimentation. Although I still asked my mentor questions frequently, I was able to become a more independent researcher, which allowed me to choose the direction of my project. It was a very big responsibility, and I had to master not only technical skills such as collecting water samples and testing those samples but also soft skills such as lab report writing and record keeping. Second, I shifted from being simply a RESEARCHER to an ADVOCATE for agricultural literacy. Each year, I researched and experimented, but I also shared my findings at local, state, and national agriscience fairs and spoke to several organizations in my community about nonpoint source pollution; one of these organizations was Anywhere Watershed Association. Nonpoint source pollution is not only a problem that I have explored extensively but also one I hope to help solve in the future.

**3. Briefly explain what is the single greatest challenge you faced in this award area and how did you overcome that challenge?**

The greatest challenge I faced throughout my SAE was my own IGNORANCE. In the beginning, I was looking for someone to blame, and I found that someone: farmers. I was convinced they were the "real" problem and the reason our water quality was diminished. The EPA had labeled nonpoint source pollution as one of the deadliest threats to American water quality; I wanted nothing more than to prove there was an easy solution to this problem. This became a stumbling block early on because as I researched, I began to realize my scapegoat wasn't the problem at all. In fact, most nonpoint source pollution came from people like me who didn't realize the fertilizer they used in the family garden could easily reach and contaminate water sources nearby if applied too heavily. Not growing up on a farm, I had an extremely limited viewpoint of the agricultural world. However, as I began to research my problem and visit farms to sample on, I began to discover not only was I wrong, but I wasn't the first person who had been wrong. Realizing this, I shifted gears and began to search out the truth of the matter. Why were farmers often the ones the world blamed? How could I help to combat those stereotypes that gave farmers a bad name? Fortunately for me, my challenge was easily overcome. I simply had to listen to the farmers I spoke with and investigate the true circumstances in my investigation, whether out in the field taking pictures and gathering first hand evidence or in my room researching.

**Briefly explain your three greatest accomplishments or findings in this award area.**

### Accomplishment/Finding #1

My first FINDING supported my hypothesis stating the use of Best Management Practices did reduce nonpoint source pollution. Some examples of Best Management Practices are not applying litter or fertilizer on steep gradients and not applying before storms or near streams. In my experiment, the Non-practicing Best Management field (NPBM) exhibited the highest levels of pollution, reading on average at .236 ppm for Phosphates and .591 ppm for Nitrates. The Practicing Best Management (PBM) field read on average .179 ppm for Phosphates and .500 ppm for Nitrates. When tested for Phosphates, the PBM water samples read on average at .084 ppm lower than the NPBM samples. Likewise, PBM fields showed .091 ppm less Nitrates on average than NPBM fields.

### Accomplishment/Finding #2

My second FINDING supported my hypothesis stating urban areas, on average, would show a higher concentration of pollution than rural areas. It was my suspicion that because many homeowners are unaware of the corresponding Best Management Practices (BMPs) for their area or type of operation, the levels of nonpoint source pollution in urban areas would be higher. In my experiment, the Average Tested Water Pollution of Urban Area A was higher than Rural Area A by a difference of .717 ppm in Phosphates and 3.599 ppm in Nitrates. Rural Area B showed the highest levels of pollution in Phosphates, .888 ppm, followed by Urban Area A with .871 ppm on average. Urban Area A also showed the highest levels of Nitrates, reading on average at 8.308 ppm.

### Accomplishment/Finding #3

One of my most important ACCOMPLISHMENTS has been sharing my FINDINGS. After four years of research and exploration, I realized just how little I knew about agricultural science, and I now find myself sharing what I've learned with anyone who will listen. Many nontraditional agriculture students never have an opportunity to hear about agriculture, and my research gave me an opportunity to change that. I have presented at agriscience fairs on the local, state, and national level, and to independent groups like the Anywhere Watershed Association, the watershed in my community. I have also presented to many of the agricultural classes at my high school and demonstrated how to do water testing for phosphates and nitrates to other students.

**What are three ways your experiences or opportunities in this award area will impact your future.**

### Impact #1

Being a predominately books and poetry girl, the language of mathematics and science wasn't one that came naturally. My dyslexia makes communicating with numbers difficult, and, as a result, I shied away from math and science; however, through my SAE, I was able to overcome my fear of presenting data to other people. Perhaps the most crucial element of scientific research is sharing results. By continuing to confront my aversion of sharing the results of my research-- aloud or while writing lab reports, I was able to develop skills that helped me overcome my dyslexia, so I could still present my project with confidence and work through the mistakes that I made. These skills will carry with me through college and into my future career.

### Impact #2

Effective communication is crucial. I witnessed this first hand by observing the tenuous relationship between researchers and farmers in my SAE. During my research, I learned from both groups of people, and because of this experience, I am better equipped to communicate effectively with anyone, regardless of their background, even in a difficult environment. Scientific research doesn't always equate to everyone's comprehension level; this became increasingly evident as I spoke to different groups of people-- diverse in agricultural backgrounds, age, and academics. This ability will carry into my future career in international agriculture, a field that expects me to communicate effectively with others of different languages and cultures.

### Impact #3

Agriculture is the crux of many socioeconomic problems both inside and outside our borders. Without domestic agriculture, many third-world countries struggle to stabilize. In China, air pollution contributes to widespread respiratory problems that affect everyone. Water pollution is a prevailing problem in the United States and abroad. Clean water is hard to come by in many countries in Africa. My SAE project expanded my understanding of the international impact of agriculture as it relates to foreign relations-- a field I aim to make a career in with the Foreign Service. How can I represent my country without an understanding of agriculture? My SAE helped me decide to study Agricultural Communication and International Affairs in college.

## 2011

| Pathway | Employer or Project Name<br>Job Title, Responsibilities, or Project Description | Unpaid Hours | Paid Hours | Total Hours | Gross Earnings | Current Expenses |
|---|---|---|---|---|---|---|
| Environmental Service Systems | Exploratory: Project Pathway Planning<br>Project Planning/ Establishing Project Vision -- I planned out my project map, outlining the general objectives of each project experiment and a vague idea of how I wanted to go about each facet of the project. When I was unsure how to expand or where to go, I would ask either my chemistry teacher, ag teacher, or father for advice. -- 9 hours | 9 | 0 | 9 | $0 | $0 |
| Environmental Service Systems | Explorartory: Research Equipment Training<br>Training -- During this time, I learned how to use the appropriate probes and testing equipment such as SpectroVis, the LaMotte Water Testing Kit which included the Phosphate and Nitrate tests under the supervision of my agriculture teacher and chemistry teacher. -- 17 hours | 17 | | 17 | | |
| | **TOTAL** | **26** | **0** | **26** | **$0** | **$0** |

## 2012

| Pathway | Employer or Project Name<br>Job Title, Responsibilities, or Project Description | Unpaid Hours | Paid Hours | Total Hours | Gross Earnings | Current Expenses |
|---|---|---|---|---|---|---|
| Environmental Service Systems | So You Picked Picloram<br>Research -- As I began my project on water pollution, I frequently had to research topics I didn't understand fully so that I could conduct the project in an educated manner. For example, it was important to know the difference between nonpoint source pollutuion and point source pollution because the concentration and type of contaminants vary greatly. -- 11 hours | 11 | 0 | 11 | $0 | $0 |
| Environmental Service Systems | So You Picked Picloram<br>Experimentation/Testing -- I tested five different water samples gathered from farms across the county using the spectrophotometer provided by my school and recorded results in my notebook. This took place across several days after school in the chemistry lab. -- 7 hours | 7 | 0 | 7 | $0 | $0 |
| Environmental Service Systems | So You Picked Picloram<br>Project Presentation Preparation -- To compete in the local agriscience fair, I needed to create a trifold board that displayed my project. -- 13 hours | 13 | | 13 | | |
| Environmental Service Systems | So You Picked Picloram<br>Water Collection -- I surveyed the water ways near my sampling sites and collected each of the samples needed with my ag teacher. -- 3 hours | 3 | | 3 | | |
| Environmental Service Systems | So You Picked Picloram<br>Project Presentation -- I was given the opportunity to present my project to a STEM representative over a video call and at the local and state agriscience fairs. -- 6 hours | 6 | | 6 | | |
| | **TOTAL** | **40** | **0** | **40** | **$0** | **$0** |

## 2013

| Pathway | Employer or Project Name<br>Job Title, Responsibilities, or Project Description | Unpaid Hours | Paid Hours | Total Hours | Gross Earnings | Current Expenses |
|---|---|---|---|---|---|---|
| Environmental Service Systems | Get to the Point (Year One)<br>Research -- In order to continue on with my project, I needed a working understanding of not only the farming practices within my county and state but also an understanding of the differences between different management practices such as cost and efficiency. To accomplish this, I interviewed local farmers and also explored resources provided by the cooperative extension at the Anywhere University and the EPA. -- 35 hours | 35 | 0 | 35 | $0 | $0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Environmental Service Systems | Get to the Point (Year One)<br>Experimentation/Testing -- I tested three different samples from each of the areas I was interested in: a fallow field, a best management practices field, and a non-best management practices field. Each of these samples were tested three times to ensure legitimacy. I recorded my results in my composition notebook. -- 32 hours | 32 | 0 | 32 | $0 | $0 |
| Environmental Service Systems | Get to the Point (Year One)<br>Project Presentation Preparation -- After researching more on effective presentations on trifold boards, I improved my technique from the year before and displayed my new findings at the next agriscience fair. -- 23 hours | 23 | | 23 | | |
| Environmental Service Systems | Get to the Point (Year One)<br>Project Presentation -- I was given the opportunity to present my project at the local, state, and national agrisicence fairs as well as to my fellow chapter members during SAE work days. -- 11 hours | 11 | | 11 | | |
| Environmental Service Systems | Get to the Point (Year One)<br>Water Collection -- I surveyed the water ways surrounding my sampling sites and took the first round of samples from each of the sites. -- 4 hours | 4 | | 4 | | |
| | **TOTAL** | **105** | **0** | **105** | **$0** | **$0** |

## 2014

| Pathway | Employer or Project Name<br>Job Title, Responsibilities, or Project Description | Unpaid Hours | Paid Hours | Total Hours | Gross Earnings | Current Expenses |
|---|---|---|---|---|---|---|
| Environmental Service Systems | Get to the Point (Year Two)<br>Research -- For this year's project, I needed to explore what others had found to be different about rural and urban nonpoint source pollution and how the media interpreted and spread that knowledge. As this experiment would also be the culmination of my research, I wanted to ensure I had enough knowledge to back up my findings and the farming industry. -- 35 hours | 35 | 0 | 35 | $0 | $0 |
| Environmental Service Systems | Get to the Point (Year Two)<br>Experimentation/ Testing -- I tested four different samples from each of the areas I was interested in: a fallow field, a best management practices field, a non-best management practices field, and an urban stream. Each of these samples were tested three times to ensure legitimacy. I recorded my results in my composition notebook. -- 41 hours | 41 | | 41 | | |
| Environmental Service Systems | Get to the Point (Year Two)<br>Water Collection -- I surveyed the water ways surrounding my sampling sites and took the first round of samples from each of the sites. -- 5 hours | 5 | | 5 | | |
| Environmental Service Systems | Get to the Point (Year Two)<br>Project Presentation Preparation -- Continuing to refine my presentation, I put together another trifold board. I also added props, developed a power point, and a research notebook to better reflect the work completed. The notebook included diagrams of the molecules I was looking for, documents referenced in my lab report, and newspaper clippings from throughout the year. -- 22 hours | 22 | | 22 | | |
| Environmental Service Systems | Get to the Point (Year Two)<br>Project Presentation -- I was given the opportunity to present my project at the local, state, and national agrisicence fairs as well as to my fellow chapter members during SAE work days. I also presented my project as a guest speaker at the annual meeting of the Anywhere Watershed Association. -- 11 hours | 11 | | 11 | | |
| | **TOTAL** | **114** | **0** | **114** | **$0** | **$0** |

## Total

| Unpaid Hours | Paid Hours | Total Hours | Gross Earnings | Current Expenses |
|---|---|---|---|---|
| 285 | 0 | 285 | $0 | $0 |

# National Proficiency Application

## Income and Expense Summary of Entrepreneurship SAE Program

| | 2011 | 2012 | 2013 | 2014 | Total |
|---|---|---|---|---|---|
| **1. Revenues from Operations** | | | | | |
| a. Closing Current Inventory | $0 | $0 | $0 | $0 | **$0** |
| b. Beginning Current Inventory | $0 | $0 | $0 | $0 | **$0** |
| **c. Change in Current Inventory** | **$0** | **$0** | **$0** | **$0** | **$0** |
| d. Cash Sales | $0 | $0 | $0 | $0 | **$0** |
| e. Value Used at Home (Non-cash) | $0 | $0 | $0 | $0 | **$0** |
| f. Value of Production Transferred to other enterprise, Transferred to Non-Current, Bartered or Labor Exchanged (Non-cash) | $0 | $0 | $0 | $0 | **$0** |
| **h. Gross Revenues (Change in Current Inventory and Total Sales)** | **$0** | **$0** | **$0** | **$0** | **$0** |
| **2. Expenses from Operations** | | | | | |
| a. Inventory Purchased for Resale (Cash) | $0 | $0 | $0 | $0 | **$0** |
| b. Inventory Purchased for Resale (Non-Cash Transfers) | $0 | $0 | $0 | $0 | **$0** |
| c. Cash Expenses (all other types) | $0 | $0 | $0 | $0 | **$0** |
| d. Non-Cash Expenses (Transferred, Bartered, or SAE Labor Exchange) | $0 | $0 | $0 | $0 | **$0** |
| e. Contributed Non-Cash Expenses (Gift or non-SAE Labor Exchange) | $0 | $0 | $0 | $0 | **$0** |
| **f. Total Operating Expenses** | **$0** | **$0** | **$0** | **$0** | **$0** |
| | | | | | |
| **3. Net Income from Operations** | **$0** | **$0** | **$0** | **$0** | **$0** |
| | | | | | |
| **4. Non-Current Inventory** | | | | | |
| a. Closing Inventory | $0 | $0 | $0 | $0 | **$0** |
| b. Transfer in from Operations (Non-Cash Transfers of non-current assets) | $0 | $0 | $0 | $0 | **$0** |
| c. Contributed Inventory (Outside contribution of non-current assets - gift) | $0 | $0 | $0 | $0 | **$0** |
| d. Purchases | $0 | $0 | $0 | $0 | **$0** |
| e. Beginning Inventory | $0 | $0 | $0 | $0 | **$0** |
| f. Sales | $0 | $0 | $0 | $0 | **$0** |
| g. Non-Cash Sales | $0 | $0 | $0 | $0 | **$0** |
| **h. Net Non-Current Transactions** | **$0** | **$0** | **$0** | **$0** | **$0** |
| | | | | | |
| **5. Net Income From Operations & Net Non-Current Transactions** | **$0** | **$0** | **$0** | **$0** | **$0** |
| | | | | | |
| **6. Annual Profitability Measures** | | | | | |
| a. Operating Profit Margin (OPM) Net Operating Income/Totals Sales = % of sales related to profit | | | | | |
| b. % of Total Returns from Net Non-Current Gains (Net Non-Current Gains/Total Gains) | | | | | |
| c. Review Non-Current Ending Inv. Value | | | | | |

# National Proficiency Application
Candidate Inventory Statement - Current Inventory

## A. Harvested and Growing Crops/Plants on 12/31/2014

| Description | Quantity | Value |
|---|---|---|
| | **TOTAL** | |

## B. Feed, Seed, Fertilizer, Chemicals, Supplies, Prepaid Expenses, and other Current Assets on 12/31/2014

| Description | Quantity | Value |
|---|---|---|
| | **TOTAL** | |

## C. Merchandise, Crops, and Animals Purchased for Resale on 12/31/2014

| Description | Quantity | Value |
|---|---|---|
| | **TOTAL** | |

## D. Raised Market Animals on 12/31/2014

| Description | Quantity | Value |
|---|---|---|
| | **TOTAL** | |

## E. Non-Depreciable Draft, Pleasure, or Breeding Animals on 12/31/2014

| Description | Quantity | Ending Total Value |
|---|---|---|
| | **TOTAL** | |

## F. Depreciable Draft, Pleasure, or Breeding Animals on 12/31/2014

| Description | Quantity | Acquisition Cost | Depreciation Claimed | Value |
|---|---|---|---|---|
| | **TOTAL** | | | |

## G. Depreciable Machinery, Equipment, and Fixtures on 12/31/2014

| Description | Acquisition Cost | Depreciation Claimed | Value |
|---|---|---|---|
| **TOTAL** | | | |

## H. Depreciable Land Improvements, Buildings, and Fences on 12/31/2014

| Description | Acquisition Cost | Depreciation Claimed | Value |
|---|---|---|---|
| **TOTAL** | | | |

## I. Land on 12/31/2014

| Description | Quantity | Acquisition Cost |
|---|---|---|
| | **TOTAL** | |

# National Proficiency Application
## Learning Outcomes & Efficiency Factors

| | Learning Outcome or Efficiency Factor | Beginning Level | Level Attained | Description |
|---|---|---|---|---|
| **1** | Nitrate Water Testing | Year: **2012** Level: **10 minutes to complete test** | Year: **2014** Level: **6 minutes to complete test** | Initially, it took about 10 minutes for me to accurately complete one Nitrate test in its entirety. This meant I could only complete 6 tests an hour. By the end of my experiment however, I could complete one test in 6 minutes, increasing my testing speed by 66% while maintaining accuracy. |
| **2** | Nonpoint Source Pollution Knowledge | Year: **2011** Level: **Lacked appropriate knowledge of pollution** | Year: **2014** Level: **Satisfied needed knowledge of pollution** | Before beginning the project, I only had basic knowledge about pollution. After completing my SAE, I procured an extensive knowledge of both types of pollution and methods of prevention. Because I focused on nonpoint source pollution, I did not master concepts specific to point source pollution. |
| **3** | Phosphate Water Testing | Year: **2012** Level: **15 minutes to complete test** | Year: **2014** Level: **6 minutes to complete a test** | Initially, it took about 15 minutes for me to accurately complete one Phosphate test in its entirety. This meant I could only complete 4 tests an hour. By the end of my experiment however, I could complete one test in 6 minutes, increasing my testing speed by 150% while maintaining accuracy. |
| **4** | Spectrophotometer Probe Test, Software Instillation, and Graph Interpretation | Year: **2011** Level: **Only supervised use of equipment** | Year: **2012** Level: **Some unsupervised use of equipment** | In order to complete my first project, I needed to know how to operate and use the Verneer Spectrophotometer. Before my SAE, I had no knowledge of installing or operating probes through my laptop. Afterward, I gained enough skill to install and operate a probe through my laptop. |
| **5** | Water Sample Collection | Year: **2011** Level: **Some assisted water collection** | Year: **2014** Level: **Mostly unsupervised water collection** | Water samples, in order to be usable, must come from specific areas of water bodies. Without the proper skills to collect water samples, my data would not be reliable. Before my SAE, I knew nothing about the proper water sampling method, but throughout my SAE, I obtained efficiency in this task. |

### A. Five Primary Skills, Competencies, and Knowledge within your Pathway

| | AFNR Performance Indicator | Contributions to Success |
|---|---|---|
| **1** | ESS.03.05 Apply chemistry principles to environmental service systems. | All of the equipment and test completed in my projects were influenced by chemistry principles. A spectrophotometer measures the amount of light of a specified wavelength or color. Each chemical, in my case Picloram, has a unique light fingerprint, and the spectrophotometer helps to identify that. Both the Phosphate and Nitrate tests use the chemistry principle of reagents. Reagents bond to specific chemical compounds, in my case, Phosphate and Nitrate, which results in a color concentration. |
| **2** | CS.11.02 Design and conduct a scientific investigation. | In my SAE, I designed and conducted three individual scientific investigations: "So You Picked Picloram," "Get to the Point: Year 1," and "Get to the Point: Year 2." Each of these followed the scientific method: identify a problem, ask a question, form a hypothesis, conduct an experiment, analyze data, draw a conclusion, and share results. All of the experiments were related to nonpoint source pollution but tackled individualized issues within it. |
| **3** | ESS.01.01 Analyze and interpret samples. | I individually analyzed and interpreted over 80 different water samples over my three experiments using both a spectrophotometer and a LaMotte water testing kit . In my first project, I analyzed my water samples 5 times. In the second project, I analyzed 29 samples. In the third, I analyzed 48 samples. I maintained a record book and excel sheet for each of these experiments where I recorded the results of my tests and then compared them to the normal levels, especially Phosphates and Nitrates. |
| **4** | ESS.04.01 Use pollution control measures to maintain a safe facility environment. | Through my SAE, I learned about pollution control measures used in my community and taught others about how they can use these measures themselves. Best Management Practices (BMPs) help to prevent most of the nonpoint source pollution caused by agricultural practices. I discovered through my project that BMPs can lower Phosphate and Nitrate concentration to nontoxic levels, which greatly improves overall water quality. |
| **5** | CS.08.03 Maintain tools for efficient use. | I used a LaMotte Water Testing Kit and a Verneer Spectrophotometer during my projects. To maintain the tools, I had to check the chemicals expiration dates, order new chemicals through the school, maintain a kit inventory, and keep the kits in controlled environments. I made sure to report any broken materials, and carefully cleaned the equipment after each use with distilled water. By caring for my equipment, I was able to use it throughout my SAE as efficiently as possible. |

### B. Five Supporting Skills, Competencies, and Knowledge outside your Pathway

| | AFNR Performance Indicator | Contributions to Success |
|---|---|---|
| **6** | CS.01.03 Vision: Establish a clear image of what the future should look like. | Early on in my SAE, I developed a project plan that I adhered to throughout my exploration. The first three relate to my agriscience projects. In the beginning, I aimed to gain a better understanding of nonpoint source pollution. Then, I examined the repercussions within my own community. Afterward, I addressed the misconceptions about pollution as a whole. Finally, I wanted to take what I have learned and share it with my community and beyond; I am currently in the last stage of my vision. |

| | | |
|---|---|---|
| **7** | CS.01.05 Awareness: Desire purposeful understanding related to professional and personal activities. | My inspiration for my SAE began with a desire to better understand the professional world of agriculture, and that inspiration has grown into a desire to continue my exploration of agriculture in my future career. I conducted numerous interviews with local farmers, shadowed agricultural communicators, and experienced Adopt-A-Stream volunteerism firsthand. These experiences led me to a much more powerful understanding of the agricultural industry in our modern world and what my place is in it. |
| **8** | CS.03.02 Decision Making - Analyze situations and execute an appropriate course of action. | During any question-answer sessions after my presentations, I always think through the question itself and situation before I formulated an appropriate response. It is crucial to understand my audience before responding. For example, my answer to a judge is usually significantly more in-depth and technical than to a third-grader passing through my station. The amount of time I have to respond, the comprehension level of my audience, and my experience level all contribute to my responses. |
| **9** | CS.03.01 Communication: Demonstrate oral, written and verbal skills. | In the sharing stage of my projects, I had to both write a lab report and present the information to a widely diverse audience, which required my oral and written skills to be very good. My first project was promoted to state competition, and my second two projects were promoted to national competition based largely off how well I communicated my research. Then, both of my latter two projects were accepted into the top fifteen projects in the nation based solely on the score of the paper. |
| **10** | CS.01.06 Continuous Improvement: Pursue learning and growth opportunities related to professional and personal aspirations. | At the beginning of my freshman year, I had no desire to pursue a career in agriculture. However, as I worked on my SAE and became involved with FFA, I learned not only how prevalent agriculture was in my life already in living day-to-day life but also it was a career field that I was interested in being a part of. I have continued to seek out new opportunities to study whether that was through my SAE project or through connections that my agriculture education teacher provided me with. |

# National Proficiency Application
Resume

**1. Career Objectives**
I plan to graduate from Anywhere High School in 2015. My short-term goal is to attend the Anywhere University and double major in agricultural communications and international affairs. My long-term goals are to serve as a Foreign Service Officer for the U.S. Department of State and to promote agricultural literacy in my community through free-lance writing and local advocacy.

**2. Agricultural Science Courses**
2014 - Forest Science
2013-2014 - Agricultural Mechanics II
2013-2012 - Agricultural Mechanics I
2012-2011 - Basic Agriculture

**3. Supervised Agricultural Experiences**
2011 - 2014: Environmental Service and Natural Resource Systems (Research) 3 projects

**4. FFA Involvement and Leadership**
2014: National FFA Competitions - 2; Agriscience Fair (13th) and Parliamentary Procedure (Highest Team Test Average)
2014: State FFA Competitions - 2; Agriscience Fair (1st) and Parliamentary Procedure (1st)
2014: Area FFA Competitions - 5
2014: National FFA Events - 1
2014: State FFA Events - 3
2014: Area FFA Events - 1
2014: Chapter Secretary

2013: National FFA Competitions - 1; Agriscience Fair (7th)
2013: State FFA Competitions - 1; Agriscience Fair (1st)
2013: Area FFA Competitions - 3
2013: National FFA Events - 1
2013: State FFA Events - 1

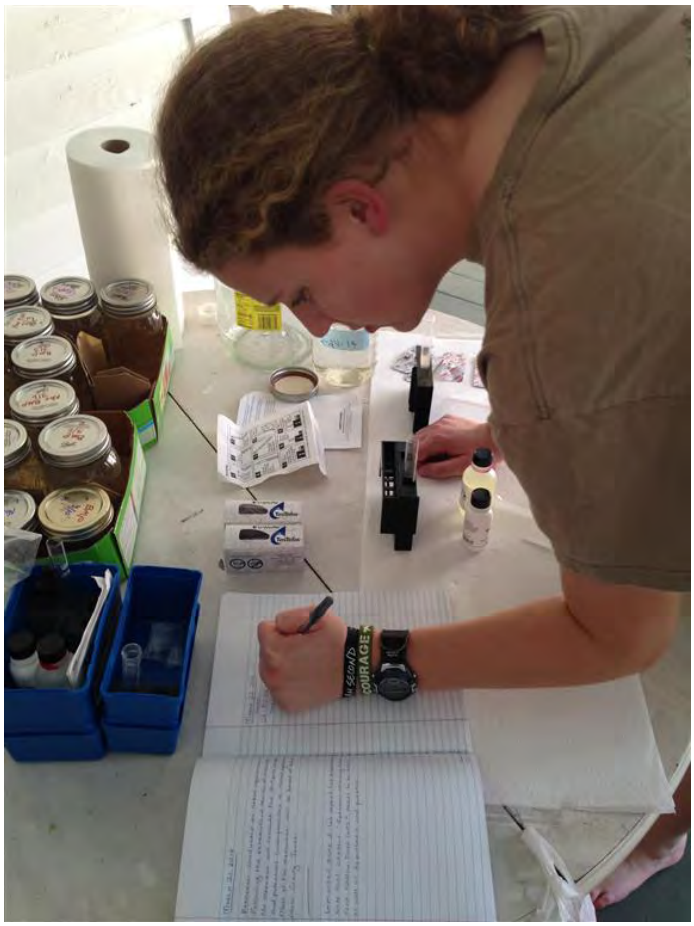
2012: State FFA Competitions - 2; Agriscience Fair and Jr. Parliamentary Procedure (4th)
2012: Area FFA Competitions - 4
2012: State FFA Events - 1
2012: Area FFA Events - 1

**5. Community Service**
2014: Anywhere New Building Move-In Project Leader and Volunteer; Blood Drive Volunteer; National Honor Society Tutor; Any Fair Volunteer; Any Farm-to-School Day Volunteer; Any Governor's Honors Program Assistant Coordinator and Student Mentor; AA State Adopt-A-Stream QA/QC Volunteer
2013: Any Earth Day Recycling Program Volunteer; Any Farm-to-School Day Volunteer; Any Blood Drive Volunteer; Anywhere Baptist Sign-Language Team Volunteer; ACC Food Bank Volunteer; Any National Honor Society Tutor
2012: Anywhere Vacation Bible School Volunteer; Any Earth Day Recycling Program Volunteer; Anywhere Baptist Sign-Language Team Volunteer
2011: Anywhere Baptist Sign-Language Team Volunteer

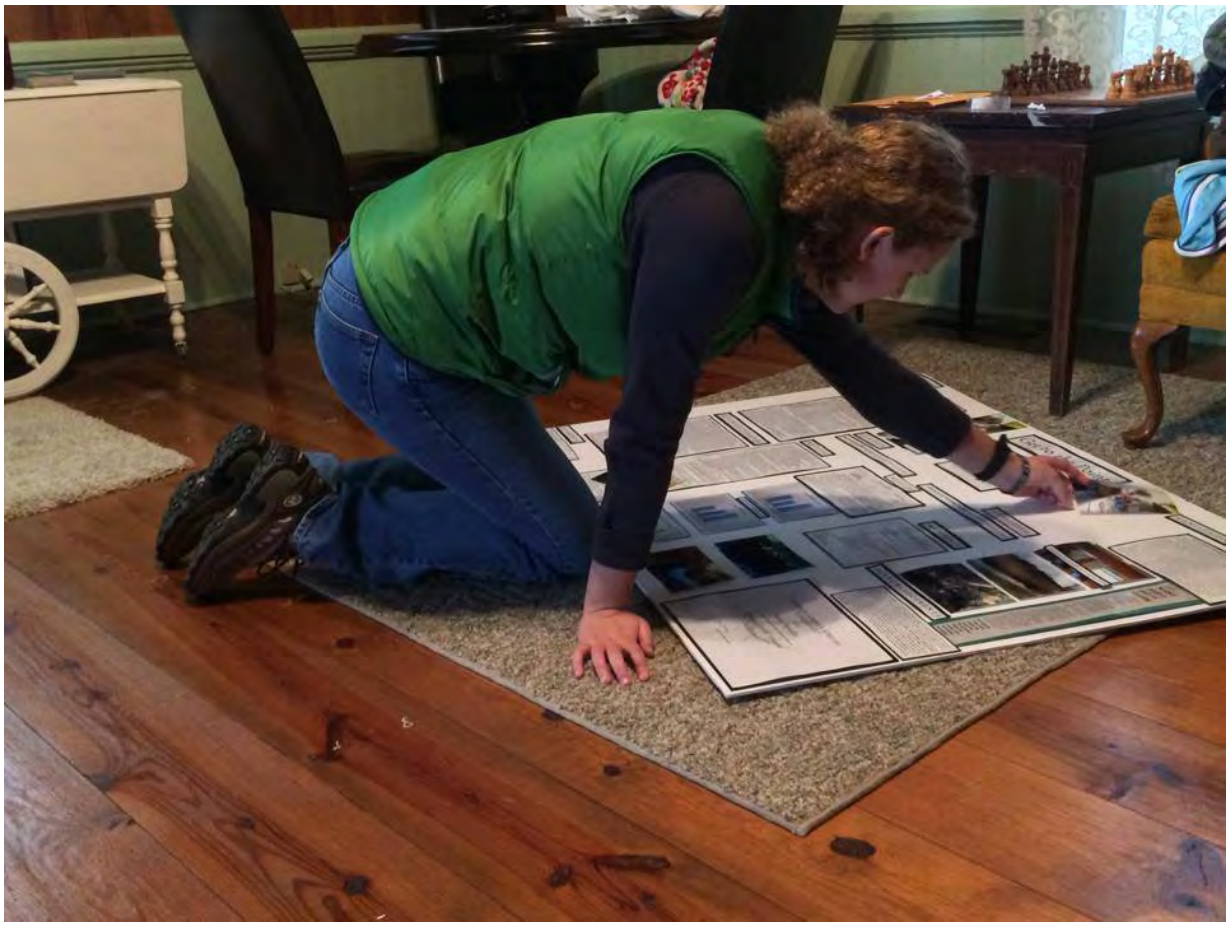
**6. Accomplishments**
2014: AP Scholar
2014: Governor's Honors Program Finalist (Communicative Arts)
2014: Phi Kappa Phi Award
2014: Any State Certificate of Merit
2014: Region Girl's Extemporaneous Public Speaking Competition Runner-up
2013: Anywhere Poetry Contest Winner
2013: Hugh O'Brian Youth Leadership Alternate
2013: False Memory Writing Contest Runner-up
2012: Perfect Attendance
2012: Anywhere Student of the Month
2012: STEM Student of the Month

**7. Certifications, Skills, and Memberships**
2014: SAEP Accredited Parliamentarian
2013-present: Adopt-A-Stream Chemical QA/QC Volunteer
2013-present: Watson Brown Junior Historical Preservation Board Member
2013-present: Anywhere Book Club Member
2013-present: Anywhere Governance Team Representative
2013-present: Anywhere National Honor Society Member
2011-present: Anywhere FFA Member

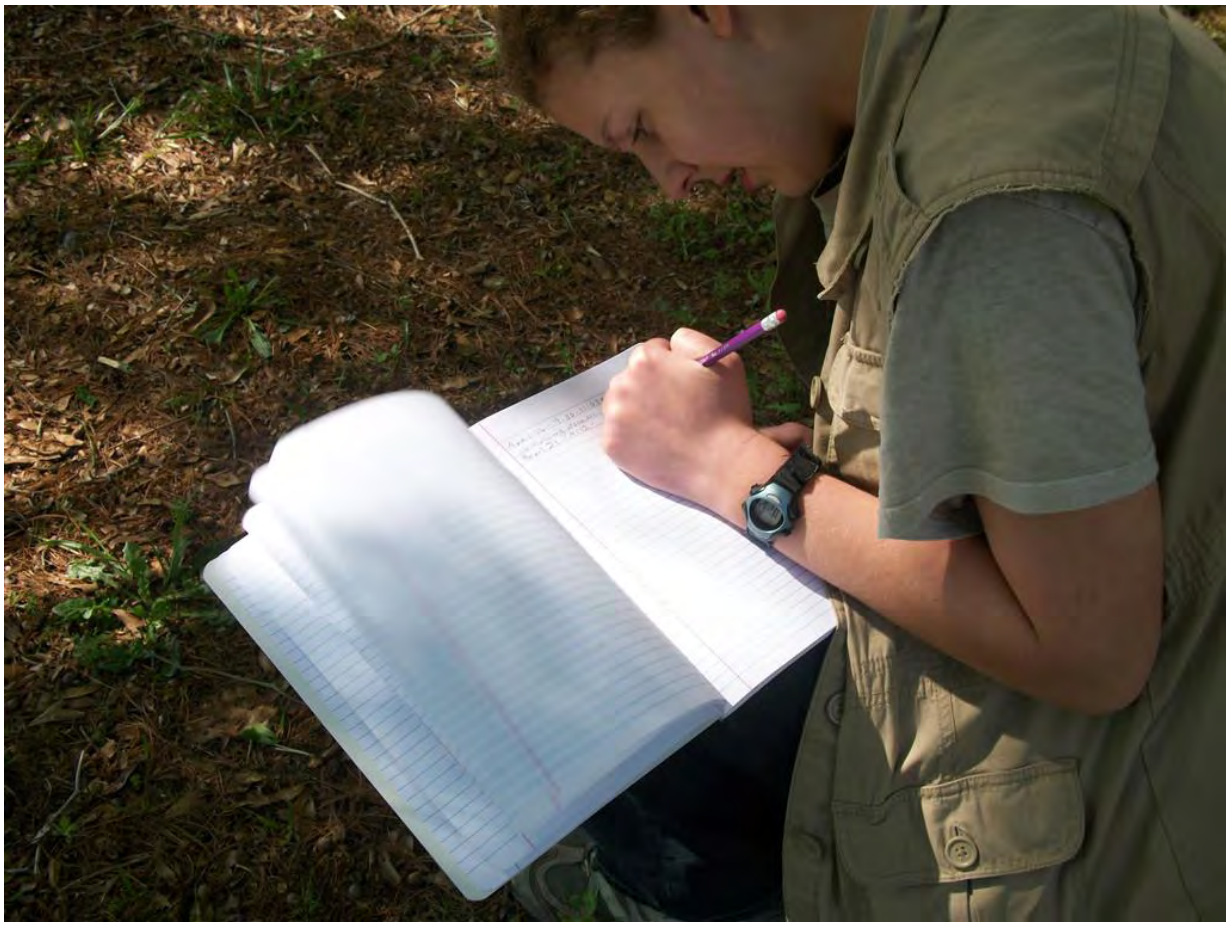
**8. Recommendations**
Recommendations removed for example purposes



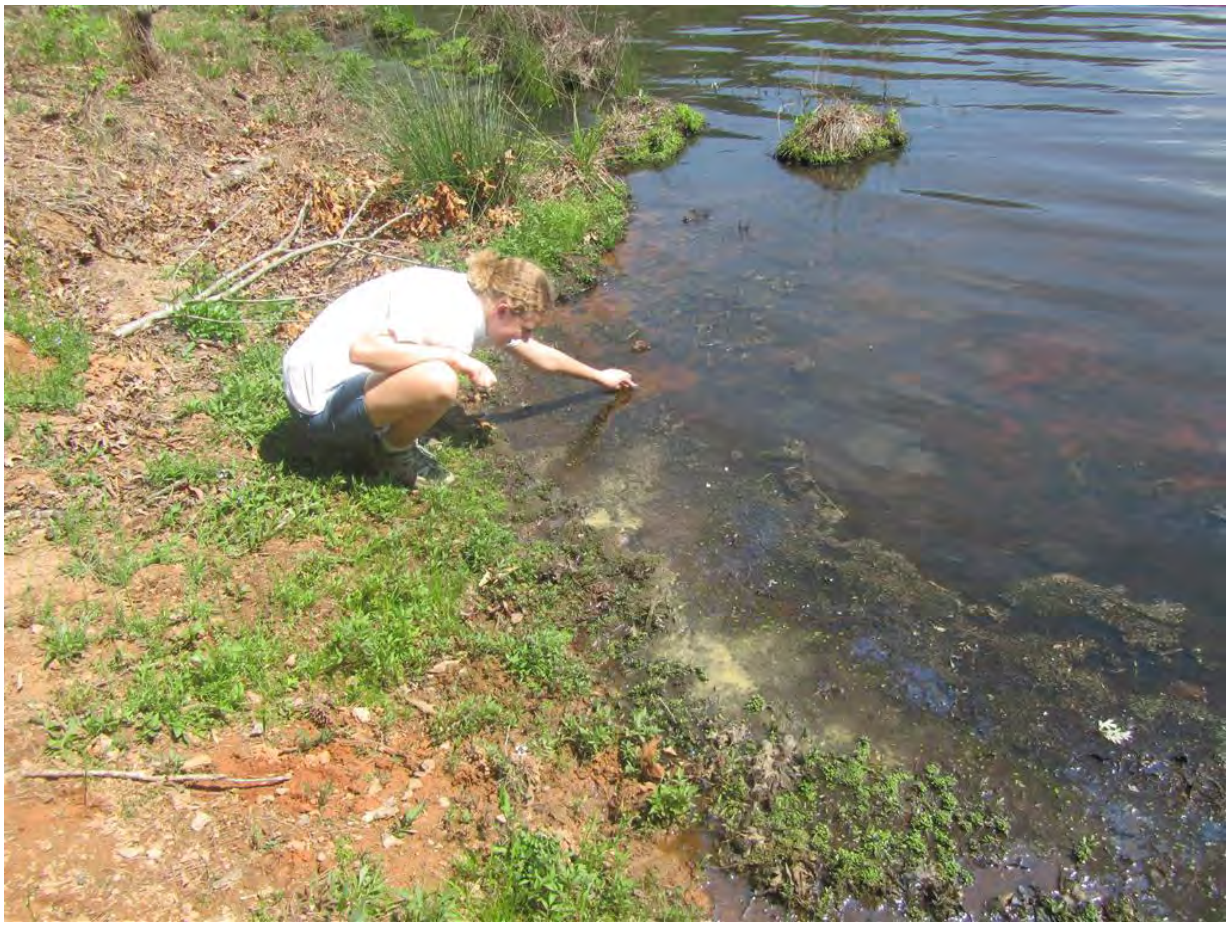
**During water testing, I had to record each of the results in my composition notebook so that I could transfer them to an excel sheet after experimenting. This helped me keep my experiment records organized and easily accessible when I needed to refer to them later on while writing the lab report. During testing, I recorded phosphate levels, nitrate levels, and temperature after assigning each sample a unique name using the labeling format I designed: MonthDay-Sample Location-Sample Number.**



**After completing the project, I worked hard to prepare my poster board presentation for local competition. My poster board displayed all the parts of my scientific paper including visual aids and pictures that showed the judges what I did during my experiment. During the science fairs, anyone was allowed to come and ask about my project. Science fairs became one of the primary ways that I helped spread agricultural literacy. It was exciting to share my results with people from my community.**



**When I traveled to visit sampling sites with my agriculture teacher, I took notes as she described the practices of the farm or area, and then I drew a rough sketch of our sampling area. The sketches helped me to emphasize certain elements of the landscape that couldn't be seen in pictures. I referred to my sketches and notes throughout my research as compliments to other sources online. It was extremely helpful to see the characteristics of different management practices first-hand.**



**During my experiment, I took several water samples from each of the areas I was testing. Each year, I was able to develop a better sampling method so that in the end we had a specific sampling schedule. Water quality can change very quickly according to the weather and temperature, so by sampling at about the same time each day from every site, I ensured that there were no lurking variables that would change the results of my experiment and that I wasn't biased toward any one of the sites.**

**While testing, I had to be careful to use the correct amount of reagent and water so my results would be accurate. Both the Phosphate test and the Nitrate test took five minutes to complete, so I wore a watch and wrote down the starting time for each test when I finished combining the chemicals together on the paper towel my readers sat on. This helped me to keep track of time as I often ran two or three tests at once. It was hard at first, but, as I practiced, testing became more efficient.**

**Before completing any project, it was important to research previous experiments similar to mine. This research builds a review of literature, which includes topics like Best Management Practices and nonpoint source pollution. I used many sources for my research including the Anywhere University Cooperative Extension reports and personal communications with farmers and researchers in my community. By using a diverse selection of references, the report was more comprehensive and less biased.**

# National Proficiency Application
## Checklist of Minimum Qualifications

- All items must be "MET" to qualify.
- Only computer-generated checks are shown here.

| Item | Value |
|---|---|
| Candidate has fully described and selected one to five Learning Outcomes or Efficiency Factors. | MET |
| Candidate has fully described all ten Skills, Competencies, and Knowledge. | MET |
| All pictures include captions. | MET |
| All pictures include a digital upload. | MET |
| Application includes at least one full calendar year of records. | MET |
| If graduated, applicant must have completed at least three full years of agriculture, or all of the agriculture offered at the school last attended. | MET |
| If graduated, applicant must have been out of high school for no more than one year | MET |
| Ending Date is Dec 31 of the year prior to the National Convention which you are applying to receive an award. | MET |
| Employer or Instructor's Statement must be printed and submitted with the application. | MUST ATTACH |
| Personal Page must be printed and submitted with the application. | MUST ATTACH |

# National Proficiency Application

Manual Review Sheet & List of Attachments

**Reviewed By: _____**

To improve the quality of applications submitted, and to eliminate the need to disqualify an application at the national finalist level of competition each agricultural proficiency award the state advisor should certify application submitted.

**Note:** The following are manual reviews of the application and a listing of attachments and page limitations for the complete application. Please review each item and exactly follow the instructions for each attachment.

## Manual Review of Application:

**Approve (Check if Yes):**

- ☐ 1. Applicant has in operation, and has maintained at least one calendar year of SAE records to substantiate an outstanding SAE program, which exhibits comprehensive planning, managerial and financial expertise, SAE Details page(s)
- ☐ 2. Applicant, parent or guardian, chapter advisor, school superintendent or principal and State FFA Advisor properly sign the application.
- ☐ 3. I hereby confirm there are no exaggerated, misleading, deceptive or false statements or claims about the applicant's experience, or performance in this application. Additionally, I confirm this supervised agricultural program has been conducted with the highest possible regard for the quality and human production practices as the products and/or services impact public safety and consumer confidence.

## Attachments & Manual Review (Instructions Below)

**Approve (Check if Yes):**

- ☐ 1. Applicant has included a written evaluation limited to one page by the most recent employer or agriculture instructor describing the progress that the applicant has made in developing the skills and competencies necessary for success within the award area in which they are applying. (Limit to ONE Page 8 ½ x 11)
- ☐ 2. Applicant has included a maximum of one page (maximum size 8 1/2" X 11") of additional information. This may **NOT** include the following: videos; CDs, DVDs, flash drive; etc.

# Anywhere Farmers Association

Advisor: Cindy Jones

February 2, 2015

Dear Selection Committee:

It is with great pleasure that I recommend Sarah Smith for your consideration. Sarah excels in and out of the classroom, displaying leadership qualities and a work ethic that make her a valuable member of our FFA chapter. Sarah is ranked 1st in her senior class, maintaining a rigorous academic schedule involving four AP classes this school year while also being committed to community and church service opportunities.

Sarah services as the FFA Vice President for Anywhere High School chapter, setting a high standard for others to follow. She is a true leader, leading by example, as she more than fulfills the commitments and responsibilities of her office. Dependable, hardworking, diligent, fair, motivating – these words describe Sarah in a leadership position.

Sarah has the drive, determination, and meticulous attention to detail that make her a thorough and accurate researcher. She has established a tremendous base of knowledge in water quality and conservation, especially as it relates to agricultural practices. She has become certified in the Adopt-A-Stream program in our community as part of her continued search for better practices that promote increased water quality.

Sarah displays all around excellence in her many diversified endeavors. It is without hesitation that I recommend Sarah as a recipient of this prestigious award.

Sincerely,

Cindy Jones
Anywhere Young Farmer Advisor

# PERSONAL PAGE UNAVAILABLE