

Creating a Universal 4-H Non-Ownership Livestock Project Record Book to Capture Impacts of
Increased Agriculture Literacy and Life Skill Development

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Table of Contents

| | |
|---|----|
| Introduction..... | 1 |
| Context for the Project..... | 2 |
| Purpose of the Project..... | 5 |
| Overview of Approach..... | 5 |
| Objectives..... | 6 |
| Review of Literature..... | 7 |
| Non-Ownership Livestock Programs..... | 8 |
| Experiential Learning Theory..... | 9 |
| Conceptual Framework..... | 11 |
| Methodology..... | 14 |
| Participants..... | 15 |
| Data Collection... .. | 18 |
| Coding Strategy..... | 19 |
| Results..... | 20 |
| Non-Ownership Livestock Programs... .. | 20 |
| Hands-on Learning and Life Skills... .. | 22 |
| Non-Ownership Project Books... .. | 23 |
| Program Involvement Outcomes... .. | 24 |
| Project Resources... .. | 25 |
| Draft Project Book Feedback... .. | 26 |
| Conclusion... .. | 28 |
| Discussion... .. | 28 |

| | |
|---|----|
| Recommendations..... | 30 |
| Final Thoughts..... | 31 |
| References..... | 32 |
| Appendices..... | 36 |
| A: Draft Outline for 4-H Non-Ownership Livestock Project Record Book..... | 37 |
| B: IRB Not Research Determination Letter..... | 39 |
| C: Stakeholder Interview Questions..... | 40 |
| D: Draft Project Record Book Feedback Results..... | 44 |
| E: Codebook..... | 48 |
| F: Finalized Project Record Book..... | 51 |

Introduction

As a constantly developing county, the decline of local farmland and the rural areas in Loudoun County, Virginia, has sparked the need for more agriculture literacy programs, specifically targeting youth residing in urban and suburban areas. Due to lack of agriculture education in the local public school system, Loudoun County residents must rely on other organizations to provide agriculture-based learning opportunities. Along with a variety of science, technology, engineering and math (STEM) projects, National 4-H Council provides curriculum and projects that focus on increasing agriculture literacy in today's youth (National 4-H Council, 2019). Resources are also available through local Extension units within each state. However, there is currently no national curriculum or project plan available for implementing non-ownership livestock programs, which allow urban/suburban youth the chance to work with and learn about local livestock. The work being done through non-ownership livestock projects addresses multiple pillars of agriculture literacy, as defined by the American Farm Bureau Foundation for Agriculture (2020), including the relationships between: agriculture and animals, agriculture and lifestyle, and agriculture and the economy. Without established resources, starting, maintaining and evaluating a 4-H non-ownership livestock program can prove to be quite challenging.

Nearly half of the American population admits to never exploring how their food is produced or where it originates (Buhler and Kirshenbaum, 2018). At such a large percentage, it is important that local communities take the steps necessary to bring agriculture awareness to the public eye, starting at a young age. "These findings are problematic because food shapes our lives on a personal level, while consumer choices and agricultural practices set the course for our collective future in a number of ways, from food production impacts to public health" (Buhler

and Kirshenbaum, 2018, paragraph 2). “Agriculture literacy describes the understanding and knowledge necessary to synthesize, analyze and communicate basic information about agriculture” (Frick, Kahler & Miller, 1991, p.54). Some of the focus areas within agriculture literacy include: identifying animals involved in agricultural production and their uses, recognizing strategies for housing in regards to animal welfare and the safety of animal products, and understanding why farming is important to communities (Spielmaker and Leising, 2013).

Context for the Project

Neighboring Washington, D.C., Loudoun County, Virginia currently serves as a heavy commuter area. Consequently, with rapid housing build-up and ongoing business development, the remaining rural farmland in the western portion of the county continues to dwindle. Between 2012 and 2017, the total number of farms in Loudoun County decreased by roughly 10% (Census of Agriculture, 2017). Alternatively, the county’s population jumped 30.3% between 2010 and 2018 (United States Census Bureau, 2018). As the population continues to increase in the coming years, the amount of farmland will inevitably continue to decrease, which could result in an even greater decline of opportunities for local youth to engage in agricultural education.

To increase agriculture awareness and provide on-going agriculture-based educational opportunities to residents across the county, the Loudoun County 4-H program offers 4-H non-ownership livestock projects to youth ages 9-18. In addition to the traditional livestock clubs, the county program currently manages three non-ownership livestock clubs that cover the topics of dairy cattle, alpacas and sheep. The most recent addition, the non-ownership alpaca club, was started and chartered in late 2018 in attempt to accommodate more urban/suburban youth. Within

these clubs, enrolled members get the opportunity to work hands-on with project animals at various local farms in western Loudoun County. By creating partnerships with local farmers who have a vested interest in agriculture education, 4-H serves as a mechanism for urban and suburban youth to connect with rural Loudoun County. During the 2018-2019 4-H year, 51 Loudoun County 4-H members were enrolled in a non-ownership livestock project, which accounted for 13% of the county's total club membership (Enrollment: Custom Reports, 2019).

Traditional 4-H livestock projects require youth to house, care for and financially support their own livestock year-round. Non-ownership livestock projects are meant to mirror the traditional 4-H livestock projects as much as possible, providing opportunities for youth to deepen their agriculture literacy related to the livestock industry. Members learn about animal husbandry, proper handling, by-products and general farm maintenance, as well as calculate feed rations, observe veterinary visits and work the animals in the ring. All of this is done without the financial investment or housing requirements of project ownership. Similar to traditional 4-H livestock club members, non-ownership members also get the opportunity to compete with their animals in competitions (such as showmanship and conformation classes) at the local county fair, testing the skills and knowledge they've gained through their hands-on project work (K. Monroe, personal communication, 2016).

Non-ownership livestock projects also have the potential to improve life skill development, as established in the 4-H "Targeting Life Skills Model" by Iowa State University (Figure 1). "Life Skills are those competencies that assist people in functioning well in the environments in which they live" (Jordan and Norman, n.d., p.1). By assisting their host farmers and peers with farm chores and project maintenance, 4-H non-ownership project members participate in activities that account for all four of the Hs, such as critical thinking (head), social

skills (heart), teamwork (hands) and self-responsibility (health) (Jordan and Norman, n.d.). Within these activities, skills often emphasized within non-ownership livestock projects are: communication, critical thinking, self-responsibility, contributions to group effort, keeping records, leadership and teamwork.

Figure 1: Targeting Life Skills Model



Copyright ©: Iowa State University Extension, Targeting Life Skills Model (Hendricks, 1998)

As of the 2020-2021 4-H year, Loudoun County has three active non-ownership projects: alpaca, dairy cattle and sheep. Each one of these clubs currently utilizes their own record book to capture the hands-on work they've completed and to help track what they've learned. All active Loudoun County 4-H club members are required to complete a record book each year. While each club's book has similarities, they also have a number of differences. This makes it difficult to capture documented impacts across the entire program. Additionally, as the demographics

continue to change across the state of Virginia, the desire to implement similar non-ownership programs in additional counties will be warranted.

Purpose of the Project

The purpose of this project was to create a project record book that showcases and prompts the thinking and documentation of the impacts of a 4-H non-ownership livestock program on its youth members.

Overview of Approach

In order to produce an effective tool that can be utilized by various 4-H non-ownership programs across the state of Virginia, stakeholders were identified from within the 4-H community, as well as outside the 4-H community, who provided input and feedback on a working draft of the project record book. The finalized project record book will not only serve as documentation of a 4-H member's work throughout the course of the year, but will also serve as a framework to guide discussion and establish learning objectives between the member and host farmer. At the conclusion of the individual project and completion of the project record book, local 4-H staff should be able to see evidence of increased agriculture literacy and further life skill development for each member.

The outline for the working draft project record book (Appendix A) was created based on models previously implemented in Loudoun County, with tie-ins from the current Virginia 4-H Livestock Project Books. It aims to capture veterinary records, project animal information, member goals and their involvement in the care of the animal, show records, community work and recorded farm work-sessions. Differing from the current ownership record books for

Virginia livestock projects (Virginia Cooperative Extension, 2018), this new project record book includes a special activity report, which focuses on detailing a specific hands-on learning activity that the member participated in. This could include mucking stalls, observing a live birth, baling hay or any other member assigned tasks. The book also includes a section where members have to research a by-product of their animal's species so that they become more agriculturally aware of the various uses of the livestock they work with. Not being able to have a market project, this section reiterates the importance of non-ownership members having a knowledge base that encompasses all production phases of the species.

Objectives

Overall objective: To create a universal 4-H non-ownership livestock project record book for Virginia 4-H.

Supporting objectives:

1. Utilize current Virginia 4-H livestock record books and local 4-H non-ownership project books from Loudoun County project clubs to develop a working draft
2. Collect and analyze stakeholder input on the working draft project record book and non-ownership livestock projects
3. Use stakeholder input to revise the draft as a final product for publication in the VCE system

Review of Literature

4-H youth livestock projects have been in existence since the inception of 4-H in 1902 (National 4-H Council, 2019). The projects have a two-fold purpose; serving as an outlet for youth development and growth, as well as a platform to educate youth about agriculture through hands-on education. Additionally, livestock projects are well-known for addressing the Six Pillars of Character, which include trustworthiness, respect, responsibility, fairness, caring and citizenship (Rusk, n.d.). As trends in the agriculture industry continue to change across the United States, it is important to keep agriculture relevant to residents living in all regions of the country.

Addressing the impacts of traditional livestock projects, a New Jersey study was conducted to determine what effect livestock projects have on the development of seven different life skills. The skills addressed were: spirit of inquiry, decision making, the ability to relate to others, maintaining records, public speaking, positive self-esteem, and the ability to accept responsibility (Ward, 1996). When calculating the average response for each individual skill, a five-point scale was used. Results had some variance, but in the end each skill had an average response of 4.0 or greater (Ward, 1996). Comparatively, 4-H beef, sheep and swine project members' parents from West Virginia were invited to address their perception of influence of proposed life skills (Heavner, et al., 2011). Similar to that of the New Jersey study, skills such as decision making and maintaining records were up for evaluation. Parents ranked their perceptions on a five-point scale, five points being essential. Accepting responsibility came out on top with 91.8% of those surveyed saying highly influential or essential. Developing oral communication skills ranked at the very bottom, but still had a respectable response of 58.3% (Heavner, et al., 2011).

Non-Ownership Livestock Programs

Extension specialists at Michigan State University believe that non-ownership programs help youth become educated consumers and increase overall urban youth participation. The programs also serve as a great introduction to the basic animal science curriculum (VanderKolk, 2013). In attempt to document the work of a non-ownership livestock project, a series of 4-H Animal Science Non-Ownership Livestock Project record books were published through Virginia Cooperative Extension (Ford and Umberger, 2004). Though each of the record books address basic knowledge of various livestock, they fail to capture any significant impacts or acknowledge hands-on education through the growing non-ownership initiative.

Due to a lack of published non-ownership livestock participant data, the Loudoun County 4-H program has the chance to serve as a pilot program for capturing the impacts of a multi-species non-ownership program. With a variety of traditional livestock project impacts on record, we have the existing tools to determine whether or not non-ownership projects can develop those same skills. 4-H livestock projects are an opportunity for youth to care for livestock, as well as increase their knowledge of farming, the agriculture industry and food production. In areas that geographically don't offer the resources needed for traditional livestock projects, such as adequate farmland and a certain amount of financial stability, non-ownership projects can help bridge the gap. Though non-ownership project work may differ logistically when compared to work done by youth who own their project animals, both projects have the ability to teach valuable life skills through hands-on agriculture education.

Experiential Learning Theory

4-H non-ownership livestock programs are based on the Experiential Learning Theory (ELT) which was originally developed by David Kolb in 1984 (Kolb, Boyatzis & Mainemelis, 1999). One of the main components of non-ownership livestock projects, experiential learning is defined as using real life experience to gain a better understanding of a topic and obtaining a larger knowledge base. “The term experiential is used to differentiate ELT both from cognitive learning theories, which emphasize cognition over affect, and behavioral learning theories, which deny any role for subjective experience in the learning process” (Kolb, Boyatzis & Mainemelis, 1999, p.2). Additionally, Kolb describes learning as a continuous process that is grounded in experience (Akella, 2010). The ELT’s intellectual origins stem from the philosophical and psychological works of Dewey, Lewin and Piaget (Kolb, Boyatzis & Mainemelis, 1999).

Shortly after the creation of the Experiential Learning Theory came the Experiential Learning Model (ELM), which is a “cyclical process of learning experiences” (McCarthy, 2010, p. 92). There are four stages to the model: concrete experience, reflective observation, abstract conceptualization and active experimentation (Akella, 2010). These stages are to be followed in a set sequence, but participants can enter the cycle at any point (McCarthy, 2010). “Learning is not a discrete process with a beginning and end, but rather an on-going process” (Roberts, 2006, p. 22). When applying the Experiential Learning Model directly to current Loudoun County 4-H livestock projects (both ownership and non-ownership), members begin with setting three to five personal goals for working with their project animals. Then they commence their project work by participating in different hands-on activities, which are spread out over the course of six to twelve months (concrete experience). Hands-on activities can include feeding, cleaning, fitting, showing, performing health checks, etc. Once the members have completed their extensive

project work they have the chance to reflect on their experiences on a personal level through the use of their 4-H record books (reflective observation). From these reflections they are tasked with forming new strategies and/or determining adjustments that need to be made for project improvements (abstract conceptualization). This then leads to the final stage of the cycle which requires members to apply what they've learned to real world scenarios in hopes of building on their future projects and goals (active experimentation). An example of this might be successfully selecting a pair of sheep to breed for a certain preferred physical characteristic. At the completion of these four stages, as established in the Experiential Learning Model, the cycle will begin again at the start of the following year's project (McCarthy, 2010).

“The learning cycle provides feedback, which is the basis for new action and evaluation of the consequences of action” (Akella, 2010, p.101). Participants can use the cycle to emphasize how taking part in different experiences influence the overall learning process. The experiences usually include hands-on activities that are related to their chosen subject matter and give the participants the opportunity to demonstrate the knowledge they've gained (Akella, 2010). When taking a more active, hands-on approach, participants have the ability to grasp concepts that they might not otherwise understand through a traditional classroom format. “With experiential learning in informal educational settings, the situation can be different, because in this case, the educator may create a situational experience which the student has not encountered in her/his life. Through creating these experiences, the student can come to a better understanding, and thus learning is facilitated” (Gross and Rutland, 2017, paragraph 10). Approximately 75% of all Loudoun County 4-H youth enrolled in non-ownership livestock projects have never lived on a farm or had hands-on livestock experience until enrolling in their respective project (Enrollment: Custom Reports, 2019).

The benefit of the Experiential Learning Model is two-fold. In addition to the students, educators are able to better recognize the various learning styles of their students and then alter their lessons to better meet the learning needs of their youth audience (Akella, 2010). “A primary responsibility of educators is not only to be aware of the general principle of the shaping of actual experience, but also to recognize that experience should lead to growth” (Gross and Rutland, 2017, paragraph 4). This responsibility aligns with the National 4-H motto, “to make the best better.” For our non-ownership livestock project members, growth can be assessed through project book evaluation, animal handling and even within the show ring.

“Experiential learning transfers abstract teaching and learning into more meaningful learning situations. It changes the role of the teacher from being a transmitter of knowledge to being a facilitator of knowledge acquisition, thus enabling a more systematic, effective learning outcome” (Gross and Rutland, 2017, last paragraph). Through non-ownership livestock projects, local farmers serve as the teachers and mentors, guiding youth members through different hands-on experiences. Having years of experience themselves, the farmers provide a vast amount of real-world information and opportunities. Youth are allowed to apply the skills and knowledge they’ve gained over the course of the project to make decisions in practical situations.

Conceptual Framework

The conceptual framework that guided this project was Caffarella’s Program Planning Model. The Program Planning Model (PPM) is an interactive, 12-component model that aims to guide adult educators and stakeholders in the overall planning process. Similar to the previously mentioned ELT, the PPM is a cyclical model that has no real beginnings or endings. However,

when referencing the PPM, users are instructed to only utilize whichever components are relevant to the situation at hand (Caffarella, 2002).

The twelve components that make up the PPM are: 1) building a solid base of support, 2) identifying program ideas, 3) sorting and prioritizing program ideas, 4) developing program objectives, 5) designing instructional plans, 6) devising transfer of learning plans, 7) formulating evaluation plans, 8) making recommendations and communicating results, 9) selecting formats schedules and staff needs, 10) preparing budgets and marketing plans, 11) coordinating facilities and on-site events and 12) discerning the context (Abdrahim, 2018).

Five of these components were particularly relevant to this project. This included:

- Building a solid base of support
- Developing objectives
- Sorting and prioritizing ideas
- Creating a design plan
- Making recommendations and communicating results

To build a solid base of support, educational program planners request buy-in from other staff members, their students, community groups and sometimes even political allies. These supporters contribute to the program planning in many ways, beginning with developing objectives. They help program planners develop both measurable and non-measurable learning objectives using various systematic methods that can be evaluated at the conclusion of the program. Depending on the number of supporters involved in the design process, there are often too many ideas to include. By sorting and prioritizing these ideas, program planners eliminate the least important pieces and any ideas that may not be feasible. Instead, they focus on those that will be the most impactful. Creating a design plan involves taking the developed learning

objectives and matching them with proposed outcomes. The design plan should always align with the strengths of the instructor, but also fit the intended audience. After the program has been delivered, planners are responsible for communicating the results back to their supporters as well as into the community to document and share impacts. This also provides an opportunity to make recommendations for further program development and improvement (Caffarella and Caffron, 2013).

When attempting to gather supporters, researchers request buy-in from identified key stakeholders. “All people affected by an educational program should be involved in the deliberation of what’s important” (Westfall-Rudd, 2018, p.4). It was vital to include stakeholders in this project because they would not only help in the creation of our product, but also in the implementation of its use within programs going forward. When involved in the process, stakeholders are also more likely to advocate for more participation in programs throughout their community. Alternatively, since a majority of the members identified in the stakeholder group were project educators, not including them in this process would have put program youth at a disadvantage. By not giving stakeholders any voice, the end product, in this case the non-ownership project record book, might not align with the curriculum established and taught throughout the length of the project.

Methodology

A universal 4-H non-ownership livestock project record book was developed in an attempt to capture the impacts of non-ownership livestock projects on increased agriculture literacy and life skill development in youth. Input was gathered from a variety of identified stakeholders to ensure the final product would be beneficial to all who may choose to utilize it. Prior to interviewing individual stakeholders, I submitted an IRB approval application for my research project. Appendix B shows that the application was reviewed and determined as “non-research”. Therefore, it did not require IRB approval.

When utilizing Caffarella’s Program Planning Model both the idea of power and inclusion of stakeholder groups is key. “Stakeholders are people who have a stake or a vested interest in the program, policy, or product being evaluated and therefore also have a stake in the evaluation” (Greene, 2005, p.398). Though this project was conducted to create a product, not evaluate one, the importance of stakeholder involvement remained the same.

When deciding on which specific stakeholders to include, I first had to conduct a stakeholder analysis. Analyzing stakeholders early on allows researchers to be proactive in helping create and ensure the best delivery of the final product. Three general dimensions to consider are the stakeholder’s power on influencing the product, the amount of interest they have in contributing and the amount of support they are willing to provide (Murray-Webster and Simon, 2006). This can be done through stakeholder mapping; using a table or grid. Once the stakeholders have been chosen, they are placed into the four main groups, as classified by Greene (2005): those with decision authority, those with direct responsibility, any intended beneficiaries and the disadvantaged.

After my stakeholders were identified, I developed objectives for the project record book. That determined the questions I asked my stakeholders (Appendix C) and the general content I was looking to include. I then developed an outline of what I felt the overall book should look like, based on current 4-H project books (Appendix A). Related, when involving multiple stakeholder groups, I had to have a way of prioritizing the feedback and input that was provided to me. Feedback (Appendix D) was received from participants through the interview process, which then led to additional edits to the draft project record book before production. I couldn't include everything in the final product, so having an effective way to organize and sort through the data to determine what pieces were most important helped keep everything on track.

Creating the design plan was the most challenging piece of the puzzle. Since I was creating a tool to be used by both youth and adults, making sure the product meets the needs of everyone impacted was key. Though my stakeholders were provided with a working draft of the project record book, they were also given the opportunity to make further recommendations throughout production. This included adding sections, revising current material and eliminating minor pieces.

Participants

For the purpose of this project, I utilized the first three aforementioned classified stakeholder groups noted by Greene (2005), which included those with decision authority, those with direct responsibility and any intended beneficiaries. Loudoun County 4-H has been fortunate enough up to this point to be able to include all interested youth in our non-ownership programs. If it gets to a point in time where we have more interest than we do space in our programs, including those disadvantaged youth as a stakeholder group will be critical. As our

older members age out, the youth on the established waitlist would then be offered a space in the program, making their input valuable.

Eleven individual stakeholders were identified and interviewed (Table 1). Group A was made up of 4-H Extension Staff. 4-H Extension Staff from across the state, as organizers of their local program and volunteer managers, have the final decision as to what programs and tools are implemented within their local unit. Every 4-H program is different, so getting feedback from staff with large livestock programs, as well as those with small to non-existent livestock programs, was critical because the creation of a universal non-ownership livestock project record book also presents the opportunity to introduce and/or establish non-ownership livestock programs in new counties across the state.

Group B consisted of non-ownership farmers and other 4-H adult volunteers. As the most influential contributors to existing non-ownership livestock programs, local farmers administer the curriculum and education to 4-H members. Throughout the course of the 4-H member's project, local farmers have the most face-to-face time with the youth, the largest breadth of subject knowledge and are most familiar with the project animals the 4-H members are working with. They often create their own "curriculum", educating the members on what they feel are the most important learning objectives at a given time. Gathering input from these local farmers allowed for the creation of a project record book that not only documents the factual data of each project animal, as many existing record books do, but also captures the extent of knowledge gained by each member throughout their project work in an organized way.

Group C was categorized as current 4-H members who have had at least one year of experience as a non-ownership project member. Any participants under the age of 18 had a parent present during their interview. Representatives from all three project areas participated. 4-

H is all about learning and gaining experience through hands-on work. This makes the youth members our identified beneficiaries. Project record books serve as a useful tool for our youth, as they are often referenced when applying to college, for a job or even a 4-H All Star application. For this reason alone, it was important to include youth participants in the planning process. Knowing what elements of a record book they find most important and beneficial assisted in the development of a well-constructed final product. Members of this group are the ones who will receive the majority of the overall benefits.

Group D participants were alumni of a 4-H non-ownership livestock program. Whether they held multiple projects, or just one, they had participated in at least two years of non-ownership livestock programming. Being former members who had to complete project record books when they were active in the program, getting their feedback was crucial. Knowing what they found to be helpful and what pieces seemed irrelevant helped to structure the book accordingly. As alumni, they have had a chance to put some of the skills they learned within the program into action, which helps evaluators to better understand the possible program outcomes.

The final group, Group E, was made up of a non-4-H participant. Through the help of my co-worker who teaches nutrition education to underserved audiences in the eastern end of the county, I was able to connect with a youth who had only ever heard of 4-H in passing. This contributor had never been involved in any type of 4-H programming. With that in mind, they were able to provide an outside perspective to assess how user friendly the draft project record book was.

It was important to engage all of these stakeholder groups in the development of the project record book, as they are the people who are going to be contributing to the work that

supports our final product and its continued usage. Recruitment of these stakeholders was done through individual invitation.

Table 1: Study Participants

| <i>Participant</i> | <i>Category</i> | <i>Specific Role</i> |
|--------------------|-----------------|---|
| A1 | 4-H Staff | 4-H Program Technician (large livestock program) |
| A2 | 4-H Staff | Senior 4-H Extension Agent (large livestock program) |
| A3 | 4-H Staff | 4-H Extension Agent (no livestock program) |
| B1 | Farmer | Cattle Farmer, Non-Ownership Project Leader, 4-H Volunteer/Parent |
| B2 | Farmer | Alpaca Farmer, Non-Ownership Project Leader, 4-H Volunteer |
| C1 | Youth | 4-H Alpaca (previous), 4-H Sheep & 4-H Dairy member |
| C2 | Youth | 4-H Alpaca, 4-H Sheep member |
| C3 | Youth | 4-H Alpaca (previous), 4-H Sheep & 4-H Dairy member |
| D1 | Alum | 4-H Beef and Goat alum |
| D2 | Alum | 4-H Sheep alum |
| E1 | Non-4-H Youth | No participation in 4-H |

Data Collection

Participants in groups A, B, C, D and E were all provided with the working draft project record book in early September. Following the draft book’s distribution to each stakeholder via email, interviews were then scheduled approximately two weeks out. Due to restrictions with COVID-19, all interviews were conducted virtually over the Zoom platform. During the interviews, questions were asked of each participant, based on the group category, following the

guides in Appendix C. Each interview lasted between 20 and 75 minutes in length. All question responses and any additional feedback on the project record book draft were recorded electronically and transcribed.

Coding Strategy

Once all of the interviews concluded, I read all of the transcripts through to familiarize myself with the data. From there, I developed open codes based on participants' responses, which led to creating more focused codes as I found similarities amongst them. Grouping the focused codes together led to centralized themes which formed an outline for the layout of the results (Saldaña, 2016). The codebook can be found in Appendix E.

Additionally, codes for the draft project record book feedback were created to delineate which suggestions given by participants were incorporated into the final product. The two tables at the top of Appendix D connect each listed code with its result. Generalized participant feedback of each draft project record book section was also compiled and documented.

Results

Upon conclusion of the data collection coding process, five themes resulted. These themes include: non-ownership livestock programs, hands-on learning and life skills, non-ownership projects books, program involvement outcomes and project resources. Additionally, overall feedback on the draft project record book was collected and reported in a separate subsection.

Non-Ownership Livestock Programs

4-H non-ownership livestock programs allow youth without the housing and financial means to own livestock the opportunity to learn what it takes to manage and care for a livestock project animal. In collaboration with volunteer farmers, 4-H members assist in the daily care of their selected project and are gifted the opportunity to show the animal in the county fair, if they choose.

Three Loudoun County 4-H members currently enrolled in one or more non-ownership livestock clubs participated in this study. Their individual project experience ranged from one to four years. Project participation included: alpaca, sheep and dairy cattle. “This is my fourth year in the sheep project and second year in dairy,” explained one member (participant C3). Two 4-H program alumni were also interviewed; their project involvement spanned all the way up to seven years. During their time in the program, one alumna focused solely on sheep, while the other was active in the beef cattle and goat projects.

Study participants who were not involved in non-ownership livestock projects expressed common limitations that might prevent them from doing so. One 4-H staff member shared that they don’t feel as if they currently have the interest in their area, nor do they believe that they

would have enough volunteers or resources to start a program from scratch. There was also a concern for the amount of time it would take to organize and maintain a program with so many moving parts. A youth not currently enrolled in 4-H shared that transportation to and from the host farm could easily limit involvement on the youth side, as well as not being able to afford or have access to the necessary supplies. Another 4-H staff member expressed how having an existing 4-H livestock program can lend itself nicely to adding non-ownership projects if desired.

4-H non-ownership programs would cease to exist without the support of dedicated volunteers. In addition to the traditional 4-H club leader, volunteer farmers are needed to provide the land, financial support, project animals and the education. Participant B1 explained, “I am very much the educator. I treat the 4-Hers as if they know absolutely nothing when they get here. They usually know very little about the species and what’s going to happen and what goes on. It [the educational learning process] is about how we, the host farmers, get them from point A to point B.” One study participant serves in a dual-role as both the club leader and host farmer. Interviewed farmers agreed that there are major benefits that come from youth working with animals and what they are able to take-away from having on-farm experience.

When asked why they continue to volunteer, one farmer (participant B1) shared, “Both of my kids went through the 4-H program. It was just so influential in who they are and what they became as they’re young adults. I felt the need to give back to this program and to continue to try and help kids as they’re coming along. As far as volunteering to be a non-ownership farmer, my kids started their first year in a non-ownership program through 4-H that only lasted that one year. So that was the door that opened that my kids jumped at to get involved. And when I see the direction it took them, I was like, we have the facility, we have the animals, I can offer this.”

Hands-on Learning and Life Skills

After interviewing stakeholders, it was made evident that youth learn important life skills such as teamwork, responsibility, leadership and patience through their work as a non-ownership livestock program member. They get a wide variety of hands-on learning experience by helping their host farmer with daily, weekly and monthly care.

When inquiring about important skills they feel they've gained, multiple study participants also reported an improvement in planning, time management, public speaking, record-keeping and social skills, in addition to those mentioned previously.

Alumni study participants were quick to share which skills they acquired through their non-ownership livestock project work that they are still using today in college and beyond. "Being able to communicate to a group of people...working as a team, accepting other people's ideas and knowing to explain to people what you're thinking" were all notable attributes shared by participant D2. One alumna detailed how working with her host farmer on documenting finances into her project book helped her understand how to budget better and not overload costs into a single month.

Depending on the agreement between the club leaders, volunteer farmers and 4-H members, youth interviewed shared that they have the opportunity to work at their host farms as often as five to seven days a week. The typical day-to-day hands-on tasks included feeding and cleaning pens. Weekly and monthly care opportunities included trimming hooves, washing/grooming and collecting weights. "For alpaca, we mainly go there for evening chores. So, we just clean up manure, get fresh water and put hay and straw down so they have nice bedding. And we go there monthly for ivermectin shots and weights." explained participant C2.

A favorable benefit of participating in a non-ownership livestock program is the ability to train and show your chosen project animal in the county fair or other local show. At the start of the project year, volunteer farmers will often go over the qualities of a good show animal and how to select an appropriate project. Some of the animals were used to being handled, while others weren't. "We would dedicate the first half hour to forty-five minutes to training the sheep...put them on a halter, walk them around. We would sit down with them and just let them eat, feed them treats...and let them get used to us being around them. It's different for every animal but for most of my sheep it took a few weeks for them to let me touch them and get used to me" (Participant C1).

Non-Ownership Project Books

Project books help capture the work of a 4-H member over the course of a project year. Included sections offer opportunity for record-keeping and reflection. In order for a 4-H member to receive credit for a project, they have to complete a minimum of six hours of educational programming. Non-ownership project books are completed in collaboration with volunteer farmers.

When discussing the purpose of project books, one 4-H staff member felt that they help demonstrate knowledge, mastery and experience. Participant B2 stated, "I think the point of the project book is to hold the member accountable on what they're learning and it also shows the growth from year to year". In an opposing viewpoint, another 4-H staff member, participant A1, expressed their concern that the current project books available don't actually help youth see the life skills they're building. "The project lends itself to building those life skills. The project book, I don't know that it helps guide any more so than the word of mouth from a mentor." Echoing

those thoughts, a third staff participant, participant A2, stated, “the learning comes in doing the project, while the recording helps you to reflect.” This conclusion mirrors the “Do, Reflect, Apply” method utilized across all 4-H programs.

Participants with experience managing 4-H non-ownership programs were asked which project books, if any, they use with their youth members. Some 4-H units currently use the state produced individual species books, while others created their own individual non-ownership project books to better fit their locality. None reported the use of or access to a universal multi-species non-ownership livestock project book. The idea of one being drafted and possibly available in the future was received in a positive way.

Questioning the usefulness of project books, many current 4-H members shared their original frustration with the requirement. However, they also expressed the satisfaction of having completed them once the project year concluded. One alumna, participant D2, specified, “When I was younger, it [completing project books] felt like a chore. But then I got into high school and it was super useful. It helped me with my 4-H All Star application. It helped me with my resume when I went to National Congress, and even when I was mentoring for the State 4-H Cabinet. They [project books] make it [the 4-H non-ownership program] more of a substantial experience because it’s stuff that I can look back on and see what I learned when on the farm. It definitely pays off.”

Program Involvement Outcomes

Upon conclusion of the 4-H non-ownership program, members are equipped with necessary tools to take what they’ve learned and apply it to other aspects of their lives. Whether they decide to pursue a career in the agriculture field or simply use the life skills they’ve gained

to achieve additional life goals, the lessons they've learned and the experiences they've had will help carry them into adulthood.

Multiple study participants expressed their desire to have a career in the veterinary medical field. "I love animals and I've always wanted to be a vet. People have asked me, if I couldn't be a vet for some reason, what would I be? And I have no clue." participant C1 shared. Others simply want to own their own farm one day. One participant in particular hopes to be employed as a farmhand at her host farm while she works towards becoming a veterinary technician. She shared how her experience in the 4-H non-ownership program and the connections she's been able to make have helped pave the way for her to achieve those goals.

Alongside the animal project knowledge and hands-on farm experience, members experience personal growth throughout their participation in non-ownership livestock programs. Study participants attested to an increase in responsibility, confidence and leadership. "The friends that I was able to make within the club, and eventually when I got older, serving as a mentor to the younger members of the club, was really important to me" (Participant D2). Additionally, one alumna shared how the program created a sense of belonging. "The community surrounding all of these clubs is amazing, and just feeling like you're a part of something so fun and enjoyable throughout the year" (Participant C2).

Project Resources

Whether a 4-H non-ownership program already exists or is getting ready to be launched, it's important to have the necessary resources available for both the members and volunteers. Host farmers interviewed shared how they normally go about putting together the educational framework for the programs they teach. Both use outside resources, such as national association

handbooks, to develop their annual educational plan, as well as incorporating their own knowledge and professional experience. Depending on the experience of their members, they will alter their teachings to best fit the audience.

In absence of a livestock program, participants described resources they would need in order to launch a non-ownership livestock program: experienced and knowledgeable volunteers, a structured curriculum and general guidance. “It would really just be the people and some sort of process that we could plug people into,” explained one 4-H staffer (participant A3). A non-4-H member, participant E1, was asked about limitations that may prevent youth from participating in a non-ownership livestock program, whether new or existing. Lack of transportation and necessary project supplies were at the top of the list.

Though obtaining specific resources for a project is often necessary, the non-ownership livestock program itself is a major resource of agriculture education for youth, specifically in urban areas. “I think opening up opportunities to kids that maybe don’t have the land or the money, etc. to own a goat or a cow or a pig - I think that’s a great opportunity to just learn about the animals and learn about the responsibility of having an animal” (Participant D1). The non-4-H youth study participant, E1, shared that they were not receiving any agriculture specific education in school and thought this type of opportunity sounded like “a good learning experience”.

Draft Project Record Book Feedback

Overall the project record book received positive feedback. An alum shared, “I would have loved this when I was involved in the goat or beef project. It’s super inclusive and I think it’ll be great for any age. Every month you have to be doing something and paying attention. I

love it” (Participant D1). Echoing the positive remarks, a staffer stated, “Even from someone with literally zero experience, it made sense. I could see how someone would fill it out. And it looks like you’d get some valuable data from it” (Participant A3). Alternatively, there were also some suggestions for improvements. Some addressed certain sections, while others were suggestions for expanding the book in the future. As a non-4-H youth member, participant E1 expressed the need for additional guidance on how to complete the book, as without experience, new members may not fully understand what each section is asking for at first glance. Feedback was compiled in Appendix D with indication of how it was addressed in the final book.

Conclusion

Discussion

The purpose of this project was to create a tool to help capture the impacts of 4-H non-ownership livestock projects on increased agriculture literacy and life skill development in youth member participants. The study served as a way to gather input from stakeholders on the project record book draft presented, based on their current and previous experiences within their local program. 4-H non-ownership livestock programs are a unique way to educate youth from urban and suburban areas in the various aspects of agriculture, while also providing them with opportunities to gain new skills. Similar to traditional livestock projects, these programs can teach responsibility, teamwork and time management related to livestock care through hands-on farm experience. Youth participants gain insight into the obstacles and rigors that challenge farm operations.

Non-ownership livestock projects are a collaborative effort between 4-H staff, local farmers, and 4-H youth. Following Caffarella's Program Planning Model (Abdrahim, 2018), 4-H staff and local farmers serve as the support system for youth participants. They help to prioritize ideas based on the overall desired program objectives and members' individual goals. From there, an annual programming plan is developed to structure the educational framework for the year. Together, all of the involved stakeholders collaboratively contribute to the implementation and success of the program.

Those looking to start a non-ownership livestock program in their unit will want to consider the additional seven components of Caffarella's Program Planning Model that were not directly addressed in this study. Those components include: discerning the context, identifying program ideas, devising transfer-of-learning plans, formulating evaluation plans, selecting

formats, schedules and staff needs, preparing budgets and marketing plan, and coordinating facilities and on-site events. By thoroughly addressing all of the model's components, program developers should be able to build a solid foundation for initial program implementation. When working through the process, one of the most valuable resources will be 4-H staff members who have a non-ownership livestock program already in place.

As the amount of farmland continues to decrease and farm operations become more commercialized, youth organizations such as 4-H can work to provide meaningful opportunities to keep agriculture relevant to today's youth as well as future generations. Though the main focus of non-ownership livestock projects is animal science and agriculture, they also serve as an outlet for youth to grow as leaders within their community. As determined through my participant interviews, youth learn how to care for someone other than themselves, make decisions and accept responsibility for their actions, paralleling findings in the former New Jersey and West Virginia studies (Ward, 1996 and Heavener, et al., 2011). 4-H members are given the opportunity to gain public speaking skills and network with industry professionals, which leads to an increase in self-esteem and confidence. Members have the opportunity to get a better understanding of the agriculture field and build a stronger knowledge base through the experiential learning process.

By utilizing this new universal non-ownership livestock project record book (Appendix F), members should be able to not only document their work, but also assess the skills they have gained through their projects. This includes goal setting, interactive project work and activities, reflection, and adaptation, as noted in the Experiential Learning Model (McCarthy, 2010). Over time, these more expansive records can help youth as they build resumes for college applications and as they prepare for the general workforce.

Recommendations

For the most part, non-ownership livestock projects are fairly self-contained, with resources primarily provided by the host farms. Additionally, utilization of this universal non-ownership livestock project record book can help capture the impacts of non-ownership livestock programs not only at the local level, but at the state and national level as well, if used consistently. For those looking to start a non-ownership livestock program in their county, using this project record book as an introductory resource will help guide the volunteer farmer, 4-H staff and youth member to develop an outline for program implementation. It can serve not only as a record, but a guidebook for the anticipated learning objectives. Adaptations can be made as needed, based on the availability of resources in a given area.

It is also recommended that any county program with an existing non-ownership program consider adopting this universal record book for all of their projects. While outputs are still measurable, we also want to be able to distinguish outcomes, such as positive trends in knowledge and skills gained based on participation. Continuity and consistency across all non-ownership projects will facilitate evaluation of overall program effectiveness.

Based on feedback provided from the non-4-H youth study participant, I would also consider developing a separate user guide to help members as they work through the project record book. Providing them with examples of what should be included in each section and how to answer the questions could be extremely beneficial. If a user guide is not available as a resource, each unit could instead choose to host a record book training at the beginning of the year to provide a “how to” overview and answer any questions that may arise.

When addressing future research, it would be beneficial to conduct a second interview of all three current 4-H non-ownership livestock project members in this study once they have

graduated or moved on from the program, and have used the universal non-ownership livestock project book for at least two years. This will help determine the book's effectiveness, as well as understand how a second set of alumni have utilized the skills they learned within the program out in the real world.

Final Thoughts

Analyzing the data collected in this study confirmed the positive impact that non-ownership livestock programs can have on 4-H youth. Members, volunteers and staff alike noted the value of life skills and hands-on agriculture experience gained through participation in these programs. Whether or not a non-ownership livestock program already exists, having a universal 4-H non-ownership livestock project book available serves a two-fold purpose. It can increase the opportunity to properly track project and program outcomes, as well as guide the structure of a new program.

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Appendices

Appendix A: Draft Outline for 4-H Non-Ownership Livestock Project Record Book

Appendix B: IRB Not Research Determination Letter

Appendix C: Stakeholder Interview Questions

Appendix D: Draft Project Record Book Feedback Results

Appendix E: Codebook

Appendix F: Finalized Project Record Book

Appendix A: Draft Outline for 4-H Non-Ownership Livestock Project Record Book

Sections

- Cover Page
 - Member Name
 - Member Age
 - Member Address
 - 4-H Unit
 - Years in Project
 - Current Project Year
 - Signatures (Member, Parent and Club Leader)
- General Instructions for Completion
- 4-H Member Activities/Participation
 - Number of Club Meetings Held/Attended
 - Monthly write-up of what was done and something I learned
 - Any Committee/Officer Roles Held
 - Community Service Projects
 - Fundraisers
 - Countywide Events and Contests
 - Outside of 4-H Activities and Leadership Roles
- 4-H Story
 - 250-500 words describing accomplishments over the course of the project year (ex: skills acquired)
- 4-H Project Information
 - Host Farm Information (Farmer Name, Farm Location, etc.)
 - Project Animal Identification Information
 - Name/ID
 - Breed
 - Color
 - DOB/Age
 - Sex
 - Dam/Sire Information
 - Beginning/Ending Weight
 - Other Identifying Information
 - Photos of Project (at least two)
 - Housing
 - Describe the housing/pen area that your project animal is in
 - Health/Growth Record

- Obtain monthly weights and record any health issues, vet visits or medical treatments/preventatives administered
- Goals for the Project Year
 - What topics would you like to learn more about?
 - What do you hope to accomplish with your project animal?
 - How can you help your other club members become successful?
- 4-H Project Care & Management
 - Daily, Weekly and Monthly Tasks (Feeding, Vetting, Clipping, etc.)
- Farm Work Sessions Log
 - Dates of all Farm Work Sessions
 - Three to five sentences of what was accomplished at each visit
- Feed Tag Activity
 - Obtain a feed tag from your farmer and answer questions about its content
- Feed and Supplements Tracker
 - Work with the farmer to determine cost of feed per day. Show calculations. Make sure to include any supplements and hay.
- Finance Record
 - Total feed costs, vet bills, grooming costs, show fees, etc.
- Show Ring Record
 - Show Name, Date, Entry Fees, Competition and Placement (including awards received)
- Field Trip Report
 - Location, Date, Summary of Experience
- Educational Activity
 - Project Animal By-Product
 - Research a by-product of your project animal and write a 250-500 word report
- Project Record Book Scoring Rubric
 - Danish System Scoring



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MEMORANDUM

DATE: July 2, 2020
TO: Hannah H Scherer, Erika D Bonnett, Katherine Carter, Carly Michelle Griffith Wright
FROM: Virginia Tech Institutional Review Board (FWA00000572, expires October 29, 2024)
PROTOCOL TITLE: Creating a Universal 4-H Non-Ownership Livestock Project Record Book to Capture Impacts of Increased Agriculture Literacy and Life Skill Development
IRB NUMBER: **20-344**

Based on the submitted project description and items listed in the Special Instructions section found on Page 2, the Virginia Tech Human Research Protection Program (HRPP) has determined that the proposed activity is not research involving human subjects as defined by HHS and FDA regulations.

Further review and approval by the Virginia Tech Human Research Protection Program (HRPP) is not required because this is not human research. This determination applies only to the activities described in the submitted project description and does not apply should any changes be made. If changes are made you must immediately submit an Amendment to the HRPP for a new determination. Your amendment must include a description of the changes and you must upload all revised documents. At that time, the HRPP will review the submission activities to confirm the original "Not Research" decision or to advise if a new application must be made.

If there are additional undisclosed components that you feel merit a change in this initial determination, please contact our office for a consultation.

Please be aware that receiving a "Not Research" Determination is not the same as IRB review and approval of the activity. You are NOT to use IRB consent forms or templates for these activities. If you have any questions, please contact the Virginia Tech HRPP office at 540-231-3732 or irb@vt.edu.

PROTOCOL INFORMATION:

Determined As: **Not Research**
Protocol Determination Date: **July 2, 2020**

ASSOCIATED FUNDING:

The table on the following page indicates whether grant proposals are related to this protocol, and which of the listed proposals, if any, have been compared to this protocol, if required.

Appendix C: Stakeholder Interview Questions

Group A – 4-H Extension Staff

- 1) What feedback would you like to provide on the draft project record book you reviewed?
- 2) Do you have a livestock program in your unit? If yes, do youth have to own their project animals to participate?
- 3) For those without livestock programs, why don't you have one? If you had some guidance, would you be interested in starting a non-ownership livestock program? What resources would you need to feel comfortable getting started?
- 4) For those with livestock programs, what type of project record books do your members use? Do you think they are effective?
- 5) What type of information do you think is important to include in a project record book when trying to track impacts of a non-ownership program? What about capturing impacts of increased agriculture literacy and life skills?

Group B – 4-H Adult Volunteers and Non-Ownership Farmers

- 1) What feedback would you like to provide on the draft project record book you reviewed?
- 2) In what volunteer capacity do you serve? How long have you been a volunteer?
- 3) What non-ownership projects do you assist with?
- 4) Please describe your involvement (administrative as well as education) in the youth members' projects.

- 5) For those who are educators, do you use a specific curriculum with the youth? Or do you create one yourself?
- 6) Why do you think 4-H non-ownership projects are important?
- 7) What do you hope your 4-H members take away at the end of each project year?
- 8) How comfortable are you sharing financial records pertaining to individual projects with your members? What about access to the project animals and giving members individual responsibilities?
- 9) What type of information do you think is important to include in a project record book when trying to track impacts of a non-ownership program?

Group C – Youth Non-Ownership Members

- 1) What feedback would you like to provide on the draft project record book you reviewed?
- 2) Which 4-H non-ownership livestock projects are you/have you been involved in? For how long?
- 3) Why did you decide to join a non-ownership livestock club?
- 4) Name three things you have learned this past year, that you didn't know before.
- 5) How often are you working with your project animals?
- 6) What life skills have you acquired through your non-ownership project work? (Examples: teamwork, responsibility, time-management, etc.)

- 7) How do you plan to take what you've learned and apply it to other parts of life?
(Examples: start a farm, study agriculture/animal science in college, aim for a career in agriculture, etc.)
- 8) What are your current feelings on completing project record books every year? What would make them more fun?

Group D – 4-H Alumni

- 1) What feedback would you like to provide on the draft project record book you reviewed?
- 2) Which 4-H non-ownership livestock projects were you involved in as a member? For how many years?
- 3) Do you feel that your involvement in the 4-H non-ownership livestock program increased your knowledge of agriculture? If so, please elaborate.
- 4) Do you feel like the 4-H non-ownership livestock program helped you learn life skills? If so, please provide some examples.
- 5) Did you complete project books within your non-ownership club(s)? If so, how did you feel about them? Were they beneficial?
- 6) Why do you think 4-H non-ownership programs are important?
- 7) Is there anything else you would like to share about your experience in the 4-H non-ownership program?

Group E – Non-4-H Youth Participant

- 1) What feedback would you like to provide on the draft project record book you reviewed?
- 2) Had you ever heard of 4-H before being contacted about this study?
- 3) Do you have any questions about what the 4-H non-ownership livestock program is?
- 4) After reviewing the draft project record book and hearing more about the program, do you think you'd like to participate in a 4-H non-ownership livestock program? If yes, what resources would you need to make that happen? If no, why not?
- 5) Do you currently receive any type of hands-on agriculture/animal science education within your school or community?

Appendix D: Draft Project Record Book Feedback Results

| Participant Group | Title | Associated Letter |
|--------------------------|---|--------------------------|
| Group A | 4-H Extension Staff | A |
| Group B | 4-H Volunteers and Non-Ownership Farmers | B |
| Group C | Current Non-Ownership Livestock Project Participant | C |
| Group D | 4-H Non-Ownership Project Alumni | D |
| Group E | Non-4-H Participant | E |

| Decision | Associated Letter |
|----------------------|--------------------------|
| Feedback applied | Y |
| Feedback not applied | N |

Coverpage

- Appreciate that alpaca is included, even though it's not super popular – 4-H Staffer
- Suggestions:
 - Specify if “years in project” means non-ownership as a whole or each individual project (example: 3 sheep, 2 beef) – Code: **B-Y**
 - Add a space for the member's age category (junior, intermediate, senior) – Code: **C-Y**
 - Insert a photo of the member on the front – Code: **A-N**

Getting Started

- No specific feedback

Section 1: Project Year Planning

- Love the goals section and how it can tie back in to the reflection at the end – 4-H Volunteer
- Suggestions:
 - Encourage them to set SMART goals – Code: **A-N**
 - Add a question about what success looks like for the member – Code: **A-Y**
 - Word the questions so that members have to be more specific in their answers – Code: **A-Y**
 - Add a spot for a leader signature so that they can sign off on the member's goals – Code: **A-Y**
 - Perhaps combine questions two and three, as they seem to be asking the same thing – Code: **B-Y**
 - Add a note next to the last question about the need to talk to your host farmer when deciding how to best pick your project animal – Code: **B-Y**
 - Put numbers within the questions vs. formatting it in paragraph form – Code: **D-N**

Section 2: 4-H Club Meeting Attendance Log

- Really like this section, as it helps members stay organized and track their progress – 4-H Members, Staffer and Alum
- Holds members accountable for working on their books regularly – 4-H Alum

Sections 3-6: 4-H Participation/Activities/Educational Events; 4-H Leadership, Citizenship, and Community Service; Non-4-H Leadership, Citizenship, Community Service and Awards; 4-H Awards and Recognition

- Much more organized with better formatting than the current books – 4-H Member
- Aligns great with the 4-H All Star application – 4-H Alumni
- Extremely beneficial to be able to just add on to it from year to year and have it all in one place – 4-H Member
- Suggestions:
 - Add month completed in addition to the year – Code: **D-N**

Section 7: 4-H Project Information

- Appreciate the details that are being asked (color, lineage, etc.) – 4-H Member
- Suggestions:
 - Change “Name of Project Animal” to “Registration Name” – Code: **B-Y**

Section 8: Host Farm Information

- Good as presented – 4-H Member and Alumni
- Suggestions:
 - Change “aforementioned” to “above mentioned” – Code: **B-Y**

Section 9: Housing Information

- Good as presented – 4-H Member

Section 10: Farm Work Sessions Log

- Better than the current books, as it collects more information and in an organized fashion – 4-H Member
- Extremely helpful overall in documenting the project work – 4-H Member
- Really great as it helps to write the reflection as the end – 4-H Alum
- Love the addition of documenting what was learned – 4-H Alum
- Suggestions:
 - Add a place for leaders’ initials each month – Code: **C-Y**
 - Instead of just “What I Learned”, also include what the activity was – Code: **A-Y**

Section 11: 4-H Project Care and Management

- Good as presented – 4-H Alum
- Suggestions:
 - Make it clear that they need to elaborate on their responses and be specific – Code: **A-Y**

Section 12: Growth Record

- Good as presented – 4-H Alum
- Helps keep members involved in their projects – 4-H Alum
- Suggestions:
 - Note that weights and measurements are “if applicable” as not all members/farmers have access to scales regularly and that they’re not all measured the same way – Code: **ABC-Y**
 - Add a space for the animal’s name, as there could be multiple – Code: **C-Y**

Section 13: Health Record

- Good as presented – 4-H Alumni

Section 14: Show Ring Record

- Good as presented – 4-H Alum
- Suggestions:
 - Add a place to document premium winnings and what the member plans to do with it – Code: **D-N**

Section 15: Feed Tag Information

- Good as presented – 4-H Alum
- Suggestions:
 - Make sure all members can understand the questions that are being asked – Code: **A-Y**
 - Add a question asking if this is a medicated feed (due to the need to understand withdrawal times) – Code: **A-Y**
 - Move this section up so that it flows better near the health and growth records – Code: **C-Y**

Section 16: Special Activity Report

- Some club members have to do something similar to this, but they’re required to do three, so having one that is more generalize makes it more concise – 4-H Member
- Nice addition, as it’s another piece that can contribute to the overall reflection – 4-H Alum
- Not all counties provide a “list” of activities, so that wording doesn’t always apply; provide general examples instead – 4-H Staffer

Section 17: Educational Research Report

- This section was inadvertently left out of the draft during the book construction process

Section 18: Finance Report

- Suggestions:
 - Fix the spacing issues so that members have more room to write – Code: **A-Y**

- Have this section be completed as a group either at a club meeting or with the host farmer – 4-H Member
- Could prove to be a difficult section for juniors and first-time members, so maybe only require for intermediates and seniors – Code: **C-N**

Section 19: Project Reflection

- No specific feedback

Project Record Book Rubric

- Makes a lot of sense – 4-H Staffer
- Much more detailed than the current rubrics which helps members know specifically what is being looked – 4-H Member
- Suggestions:
 - Assign less points to the Special Activity Report and more to the feed tag – Code: **A-N**

Overall Comments:

- Would be comfortable using this book and could benefit from it – 4-H Member
- Appreciate the instructions on each page – 4-H Staffer
- *“There were some things that I didn’t understand at first, but when you read through it, I understood it more.”* – Non-4-H Youth
- *“Even from someone with literally zero experience, it made sense. I could see how someone would fill it out. And it looks like you’d get some valuable data from it.”* – 4-H Staffer
- *“Overall, I thought that it was very well put together and towards the end, I thought, hey, some other project books could use that.”* – 4-H Staffer
- *“I would definitely use it. It aligns so well with our current project.”* – 4-H Volunteer
- *“I thought you did an outstanding job on this book as far as clarification.”* – 4-H Volunteer
- *“I actually really liked this book, because it’s very organized.”* – 4-H Member
- *“I would have loved this when I was doing goat or beef and it’s super inclusive and I think it’ll be great for any age. Every month you have to be doing something and paying attention. I love it.”* – 4-H Alum
- *“Overall I thought it was really good. I compared it to my project books I have saved on a hard drive. Honestly, I kind of like this one better, I really like the running record of all activities.”* – 4-H Alum
- Suggestions:
 - Number the pages – Code: **B-Y**
 - Eventually look at creating one of these books for each age level (junior, intermediate and senior) – Code: **BC-N**
 - Add a photo section just for fun (no points awarded) – Code: **D-N**
 - Add something related to anatomy and labeling the markings of the member’s project animal – Code: **B-N**

Appendix E: Codebook

| Themes | Focus Codes | Open Codes |
|--|---|--|
| <p>Non-Ownership Project Books</p> | <p>Project Books Used Results from Project Books Role/Purpose of Project Books Financial Education Teaching Within Negative Perceptions Usefulness Positive Perceptions</p> | <p>No Project Books Individual Projects (State Level) Individual Projects (Own Creation) Universal Book Knowledge Gained Attitude Change Behavior Change Accountability for Learning Show Growth Document Achievements Projects, Not Books Reflection Sharing – Yes Knowledge Document Mastery/Experience Good Tool Effective Tool Budgeting Intimidating Initially A Chore Initially Cool Applications Substantiates Experience Reflection Tedious Zero Experience Valuable Data All Ages Forward Thinking Questions Do, Reflect, Apply</p> |
| <p>Hands-on Learning and Life Skills</p> | <p>Frequency of Hands-On Learning Daily Care Grooming Reproduction(?) Monthly Care Skills Using Today Animal Experience Medical Financial Behavior</p> | <p>Weekly Varies by Club Daily in Summer 5-7 Days a Week Feed/Water Trim Hooves Clean Pens Bottle Feed Handling Chores</p> |

| | | |
|------------------------------|---|--|
| | Showing | Pregnancy Checks Shots/Weights Birthing Washing Shearing Animal Experience Leadership Responsibility Planning Teamwork Time Management Patience Public Speaking Record Keeping Social Skills Vaccinations Flipping Sheep/Grooming Flight Zones Show Animal Qualities Cost of Raising an Animal Dosages Training/Showmanship Animal Anatomy Animal Personalities |
| Project Involvement Outcomes | Career Goals in the Veterinary Field Career Goals in Farming Life Skills Social Interaction Personal Growth | Veterinarian Farm Owner Veterinary Technician Farmhand Friendship Knowledge Hands-on Experience Growth Confidence Goals Achieved Teach Responsibility Life Skills Mentorship Human-Animal Bond/Trust Community/Belonging |
| Project Resources | Lack of Resources Increase Education Resources Needed Resources Used | Lack of Ag. Education Lack of Land/Money Farm Experience/Ag. Education Need Experienced Volunteers Need Curriculum |

| | | |
|-----------------------------------|---|---|
| | | <p>Need Guidance Alpaca Owner’s Assoc. Curriculum Supplemental Materials Own Teachings – Square One Need Equipment Need Transportation</p> |
| <p>4-H Non-Ownership Programs</p> | <p>Knew Someone Ag. Fairs Animal Interest 4-H Non-Ownership Project Participants 4-H Volunteer Years Involved Why Involved? Non-Ownership Projects Ownership Projects Lack of Either Implementation Limitations</p> | <p>Friend Involved Project Interest County Fair Jefferson County Fair Goat Project Beef Project Sheep Project Dairy Project Alpaca Project Alpaca Club Leader Host Farmer One Year Three Years Two Years Four Years Seven Years Passion Share Knowledge/Educate Youth Administrative Kids in 4-H Non-Ownership Give Back Interest in Horses/Sheep No Current Program Lack of Livestock/Resources Non-ownership Sheep Non-ownership Dairy Non-ownership Alpaca Non-ownership Beef Ownership Beef, Sheep, Goat, Swine No Ag. Ed. In School Time Restrictions Lack of Interest Enough Help</p> |

4-H Member Record Book • Non-Ownership Livestock Project

For use by youth 9-19 years old as of September 30th of the current year who are officially enrolled in a local non-ownership livestock program.

4-H Year: _____ Age (as of Sept. 30): _____ Age Level: _____

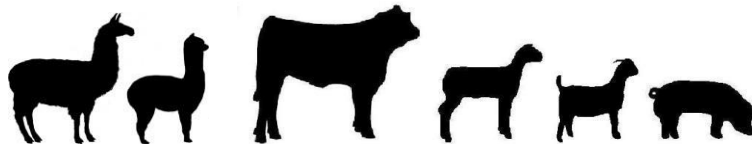
Name: _____

Address: _____

Unit/County: _____

Club: _____

Years in 4-H: _____ Years in each project (ex: Sheep – 3 years): _____



By signing this, I verify the member is enrolled and has completed appropriate project work.

Leader's Signature: _____

By signing this, I verify that all information in this record book is the work of the 4-H youth.

4-H Member's Signature: _____

Parent's Signature: _____



GETTING STARTED

Read through the instructions below prior to starting work on your project record book.

This project record book is designed to be the place for you to keep records on your non-ownership livestock projects. Read through the book carefully and be sure to complete all relevant sections. It is important that you do your own work, but ask your 4-H leaders, Extension Agent, parents or other 4-H volunteers for help when you don't understand something.

1. Read through this book and familiarize yourself with the kinds of records you will need and where information should be recorded. Discuss the book with your parent, 4-H leader and host farmer.
2. Complete essential information when you first start your project, such as the cover page and the project planning page. Share your goals with your 4-H leader and host farmer.
3. Keep your records up to date. Record information as it occurs. Consider setting aside specific times during the project when you will work on your project record book.
4. If writing by hand, be sure to write neatly and legibly. Use only one-color ink.
5. **If you have multiple non-ownership livestock projects, some sections will require you to duplicate pages.** This *could* include sections: 1–2, 7–15, and 18.
6. Include at least one photograph where asked, but do not include more than **one** additional page of photos. Clippings should be displayed in a scrapbook, not this project record book.
7. Maintain your book in a 3-ring notebook/binder or folder.

Section 1: Project Year Planning

This page should be completed at the start of your project and shared with your 4-H leader and host farmer.

What topics would you like to learn more about during club meetings and at your host farm? What new activities do you want to try? Please explain.

Please list three *specific* goals that you have for yourself within your project or 4-H.

1. _____
2. _____
3. _____

What will determine your success within your project this year? Additionally, how can you help your club members become successful?

If given the choice to select your own project animal, what factors will you consider? (Examples include: Breed, Age, Gender, Conformation, etc.) *Be sure to look to your host farmer for guidance!*

Leader's Signature: _____

Date: _____

SECTION 2: 4-H Club Meeting Attendance Log

4-H club meetings provide an opportunity for members to get together with their peers and learn new skills through hands-on educational and social activities.

Please write a 2-3 sentence description for each club meeting you attended during the 4-H year. You should highlight important business items and include any new skills gained. If you were unable to attend a meeting, please still list the date and location of the meeting and then write "absent" in the space provided.

October Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

November Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

December Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

January Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

February Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

March Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

April Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

May Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

June Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

July Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

August Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

September Club Meeting

Date Held (Month/Day/Year): _____ Location: _____

Please include a photo of a monthly club meeting or activity.

SECTION 3: 4-H Participation/Activities/Educational Events

This section is for learning experiences in which the member has been a participant and not a teacher. Be specific! List details like location, date, etc. Examples include, but are not limited to: educational programs at club meetings, workshops/clinics, 4-H Share the Fun/talent shows, 4-H camps, judging contests, quiz bowls, skill-a-thons, Fashion Revue, demonstrations, TV or radio presentations, 4-H livestock & horse shows, photography exhibits, etc.

| Year | Description | Check all that are appropriate | | | | |
|------|---------------------------------|--------------------------------|-------------|----------|-------|----------------------------|
| | | Club | Unit/County | District | State | National/ International |
| 2015 | Example: Halter Making Workshop | ✓ | | | | |
| 2016 | Example: Virginia 4-H Quiz Bowl | | | | ✓ | |
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***Keep this page as a part of your permanent 4-H record. Do not replace this page each year. Please add to it. This page will be useful for those youth who wish to submit 4-H All Star applications.*

SECTION 4: 4-H Leadership, Citizenship, and Community Service

- a. Leadership roles include: being a club officer, teaching others, organizing an activity, event, or meeting, selecting and preparing materials for a meeting, and scheduling presenters for a meeting. Being the chair of a committee and ensuring that the committee worked to accomplish its task is leadership.
- b. Citizenship activities may include: serving on a committee, making a presentation to city or county government, 4-H Day at the State Capitol, teaching/leading the pledge at a meeting or county function, serving as a delegate to State or National 4-H Congress, Citizen Washington Focus, etc.
- c. Community service activities benefit people who are not related to you. If you receive compensation for the activity, it becomes a job, not a service activity. Examples include, but are not limited to: visits to a nursing home, trash pick-up in the community, collecting and donating items for those in need, cleaning up a local park, etc.

| Year | Event and Your Role | Leadership | Citizenship | Community Service |
|------|---|------------|-------------|-------------------|
| 2011 | Example: Dairy Club, Treasurer | ✓ | | |
| 2014 | Example: Great Plains Livestock Club Trash Clean-Up Participant, January 31 | | | ✓ |
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***Keep this page as a part of your permanent 4-H record. Do not replace this page each year. Please add to it. This page will be useful for those youth who wish to submit 4-H All Star applications.*

SECTION 5: Non - 4-H Leadership, Citizenship, Community Service and Awards

This section allows the member to record their participation in other youth organizations and activities. Examples include, but are not limited to: scouts, church youth groups, youth sports, Student Council, FFA, etc.

| Year | Event/Activity/Description |
|------|--|
| 2014 | Example: National Honor Society, Vice-President, Blacksburg, Virginia, High School |
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***Keep this page as a part of your permanent 4-H record. Do not replace this page each year. Please add to it. This page will be useful for those youth who wish to submit 4-H All-Star applications.*

SECTION 6: 4-H Awards and Recognition

List recognitions, honors and awards received during the 4-H year. Examples include, but are not limited to: county project awards/pins, ribbons/awards earned through participation in contests, plaques, trophies, certificates, tangible items (such as embroidered apparel or show supplies, or scholarships). Danish system ribbons (blue award, red award, white award) count, as do grand champion animals, high individuals in contests, perfect attendance for clubs, etc.

| | | Note your placing under the appropriate level I = Individual Placing; T = Team Placing | | | | |
|------|---|---|-------------|----------|---------|----------------------------|
| Year | Name of Contest Recognition Event and Location of Event | Club | Unit/County | District | State | National/ International |
| 2015 | Example: Share the Fun — Dance Act, Sunshine Elementary School | | Blue | | | |
| 2016 | Example: Virginia Youth Poultry Convention, Hen Judging, Harrisonburg, Virginia | | | | 10I, 4T | |
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***Keep this page as a part of your permanent 4-H record. Do not replace this page each year. Please add to it. This page will be useful for those youth who wish to submit 4-H All-Star applications.*

SECTION 7: 4-H Project Information

A 4-H project is an area of interest that the member spends a significant amount of time and effort on during that year.

Species of Project Animal: (Check Box)

Alpaca

Beef

Dairy

Goat

Llama

Sheep

Swine

Registration Name of Animal: _____ Call Name: _____

Breed: _____ Color: _____ Sex: _____

Date of Birth (Month/Day/Year): _____ Age: _____

Ear Tag/ID Number/Tattoo: _____ Microchip: _____

Beginning Weight (Start of Project): _____ Ending Weight (Conclusion of Project): _____

Sire: _____ Dam: _____

Additional Identifying Information (Registration, etc.)

Please include at least one photo of your project animal(s) here.

SECTION 8: Host Farm Information

As a non-ownership project participant, your project animals are owned by a local farmer and kept on their property. To verify your participation, a signature from your host farmer is required.

Name of Host Farm: _____

Farm Address: _____

Name of Host Farmer(s): _____

By signing this, I verify that the above mentioned 4-H member has completed a minimum of six hours of hands-on learning at my farm.

Signature of Host Farmer: _____ Date: _____

SECTION 9: Housing Information

Suitable shelter with proper ventilation is important in order to maintain good health. Please describe in detail the area(s) where your project animals are kept. Be sure to include any feeding/watering areas.

SECTION 10: Farm Work Sessions Log

Please write 3-5 sentences about each farm work session you attend during the 4-H year. You should highlight important hands-on experiences and include any new skills gained. If you were unable to attend any farm work sessions during a given month, please indicate with "no work sessions attended".

October Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

November Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

December Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

January Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

February Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

March Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

April Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

May Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

June Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

July Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

August Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

September Work Sessions

Dates Attended: _____

What I did and learned:

Farmer's Initials: _____

SECTION 11: 4-H Project Care and Management

Even though you don't own your project animal(s) and may not be with them every day, please complete the following section based on your experiences and knowledge of working on your host farm.

Please be sure to include the following and *be specific*:

- Feeding and watering practices (what type of feed, how much and how often)
- Grooming (clipping, trimming, foot care, etc.)
- Health practices and medical treatments
- General Management (cleaning living area and feed pans, halter breaking, training, etc.)

Daily Care (*Ex: Feeding, Watering, Mucking stalls, Training*)

Weekly Care (*Ex: Change out bedding, Bathe, Rinse out feeders*)

Monthly Care (*Ex: Clipping, De-worming*)

SECTION 12: Growth Record

Monitoring the growth of your project animal(s) can help you determine best management practices. Measurements should be taken on the same day each month for consistency.

Project Animal Name: _____

| Date | Age | Weight (lbs.) <i>*If applicable</i> | Height <i>*measured according to species standard</i> |
|------|-----|--|--|
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SECTION 13: Health Record

Monitoring the health of your project animal is extremely important. Use the space below to record any health issues, vet visits or medical treatments shared with you by your host farmer.

Project Animal Name: _____

| Date | Health Care or Preventative Practice | Treatment Administered | Cost |
|------|--------------------------------------|------------------------|------|
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SECTION 14: Feed Tag Information

Please attach a tag or label from the feed being used by your project animal(s). If your host farmer uses a homemade mix, please be sure to describe the mix in detail.

What production level or type of animal is this feed designed for? (Ex. Market, Lactating, Growth, Maintenance, etc.)

Is this a medicated feed? If so, what for?

What is the crude protein (CP) level of this feed?

What is the main ingredient in this feed? (Hint: if the answer is not clear, it's probably the first ingredient listed.)

Why does your host farmer use this type of feed? (Price, Quality, Ingredients, etc.)

Please insert feed tag or label here.

SECTION 15: Show Ring Record

Record all of the animal project entries you've had in any shows and/or workshops over the course of the year. Be sure to include how you placed if any judging occurred.

Project Animal Name: _____

| Date | Name of Show | Competition | Entry Fee | Placement and Awards |
|------|--------------|-------------|-----------|----------------------|
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SECTION 16: Special Activity Report

Each 4-H year, your club will host or offer various project-related activities that you are encouraged to participate in. This can include field trips, workshops, demonstrations, etc. Each member is required to report on at least one of these activities.

Please include the following in at least 250 words:

- Describe the activity so that readers can clearly understand what you did.
- Write about at least three things that you learned.
- Reflect on your experience. How will you use this information? What did you learn about yourself?

Title of Activity: _____ Date: _____

Location: _____

Supervising Adult: _____ Supervisor's Initials _____

Type of Activity (Circle One): Field Trip Workshop Demonstration Other

SECTION 17: Educational Research Report

To deepen your understanding of the various uses of livestock, each member is responsible for researching at least one by-product that is derived from their project animal. By-products, as defined by the USDA, are products harvested or manufactured from livestock other than muscle meat.

Please include the following (at minimum) in at least 250-500 words:

- A detailed description of the by-product and where it is commonly found
- Which part(s) of the animal the by-product comes from
- The value of the by-product (how much does it cost to produce vs. sale cost)

Project Species: _____

By-Product Researched: _____

Resources Used: _____

SECTION 18: Finance Report

Though the majority of the costs associated with your project(s) are covered by your host farmer, it's important for you to understand the financial aspect of owning livestock. For any information you don't have, work with your host farmer to collect the necessary costs to complete your overall report.

Monthly Grain Cost Calculation

Cost of a bag of grain: \$ _____ ÷ _____ lbs. in the bag = \$ _____ per lb. (A)
 Amount fed: _____ lbs. per day x _____ days (in month) = _____ lbs. (B)
 Monthly cost of grain: \$ _____ (A) x _____ lbs. (B) = \$ _____ (C)

Monthly Supplement Cost Calculation

Cost of package: \$ _____ ÷ _____ oz or lb. in container = \$ _____ per oz or lb. (A)
 Amount fed: _____ oz or lb. per day x _____ days (in month) = _____ oz or lb. (B)
 Monthly cost of supplements: \$ _____ (A) x _____ (B) oz or lb. = \$ _____ (C)

Monthly Hay Cost Calculation

Cost of a bale of hay: \$ _____ ÷ _____ lbs. per bale = \$ _____ per lb. (A)
 Amount fed: _____ lbs. per day x _____ days (in month) = _____ lbs. (B)
 Monthly cost of hay: \$ _____ (A) x _____ lbs. (B) = \$ _____ (C)

| Year – End Income | |
|--|--------------|
| Income | Total Amount |
| Premiums | |
| Other Income (Ex: Fundraising Profits) | |
| Total Income | |

| Year – End Expenses | |
|---|--------------|
| Expense | Total Amount |
| Feed and Supplement Cost (multiply each "c" by 12 months) | |
| Veterinary/Health Cost | |
| Show Entry Fees | |
| Other Cost (Ex: Leasing Fees, Shearing/Clipping Costs) | |
| Total Expenses | |

How did the expenses you compiled compare to what you thought they would be?

Project Record Book Rubric

| Category | Scoring Criteria | Possible Points | Points Awarded |
|---|---|-----------------|----------------|
| Project Year Planning | All questions are answered thoroughly, in complete sentences and goals are appropriate for the age and experience of the 4-Her. | 10 | |
| 4-H Participation (Sections 2 – 4) | Meeting attendance log is complete. All information provided is accurate. | 10 | |
| 4-H Awards and Recognition | Information is complete and accurate. | 5 | |
| Non-4-H Participation and Awards | Information is complete and accurate. Thorough descriptions are provided. | 5 | |
| 4-H Project and Host Farm Information (Sections 7 – 9) | Information provided is complete and accurate. Host farmer signature was obtained. Housing description was thorough and detailed. | 5 | |
| Farm Work and Project Care (Sections 10 & 11) | Farm work sessions log is complete. All information provided is accurate. Care and management practices are described in detail. | 10 | |
| 4-H Project Health Records (Sections 12 & 13) | Completed growth and health records are included for each applicable project animal. | 5 | |
| Feed Tag Information | All questions are answered and feed tag or makeup of mix is attached. | 5 | |
| Special Activity Report | Report is well thought out and put together. All listed discussion points were addressed. | 10 | |
| Educational Research Report | Report is well thought out and put together. All listed discussion points were addressed. | 10 | |
| Finance Records | Calculations are all correct. All applicable information is included. Final question is answered. | 10 | |
| 4-H Project Reflection | Reflection addresses all of the points listed and it meets the 250 or 500-word minimum requirement. | 10 | |
| Overall Completion | All sections are complete with the necessary signatures obtained. Writing is neat with no spelling errors. | 5 | |
| TOTAL POINTS | | | |
| Scoring: 90-100 Blue Ribbon, 75-89 Red Ribbon, 74 or below White Ribbon | | | |