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INTRODUCTION

TIMELINE

Spartanburg Area Conservancy (SPACE) was awarded a United States Department of Agriculture (USDA) Local Food Promotion Program (LFPP) grant in November 2015 to conduct a feasibility study for hosting farm-to-school programs at their Cleveland Preserve Farm. In January 2016, SPACE released a Request for Proposals to conduct the study, and in February of 2016 they selected the team of Broadmoor Planning and John M. Newman Planning to conduct the study. Knowing that Spartanburg County School District 6 was seeking local food for its schools, SPACE wanted to begin with a focus on partnering with District 6. The study commenced in March 2016 with a final product to be delivered by June 30, 2016.

This study will explain why this project is needed, the process and methodology for completing the study, and the existing efforts and conditions for the Cleveland Preserve Farm and the needs of Spartanburg County School District 6 that created the parameters for the recommendations. Then the alternatives for program recommendation will be analyzed followed by implementation recommendations. The appendix provides information to supplement the study.

THE CLEVELAND PRESERVE

The Cleveland Preserve Farm is a 302.5-acre property located about 5.5 miles northeast of the City of Spartanburg in Spartanburg County, South Carolina. It is owned and managed by SPACE.

The property is comprised of two parcels. The first parcel is the majority of the property: 295.5 acres that contains pasture, crop space, creeks, a lake, a pond, and wooded areas. It was given to SPACE in 2009 and placed under conservation easement by Upstate Forever at the same time. A second 7.1-acre parcel lies within the interior of the larger parcel and was given to SPACE in 2011. This smaller parcel contains an access drive, part of the lake, a house, a dock, and a small amount of land surrounding the house. It was not under a conservation easement until 2016 when it was incorporated into the existing easement with the surrounding 295.5 acres.

The land was farmed by the Belue family for many decades until 2015.

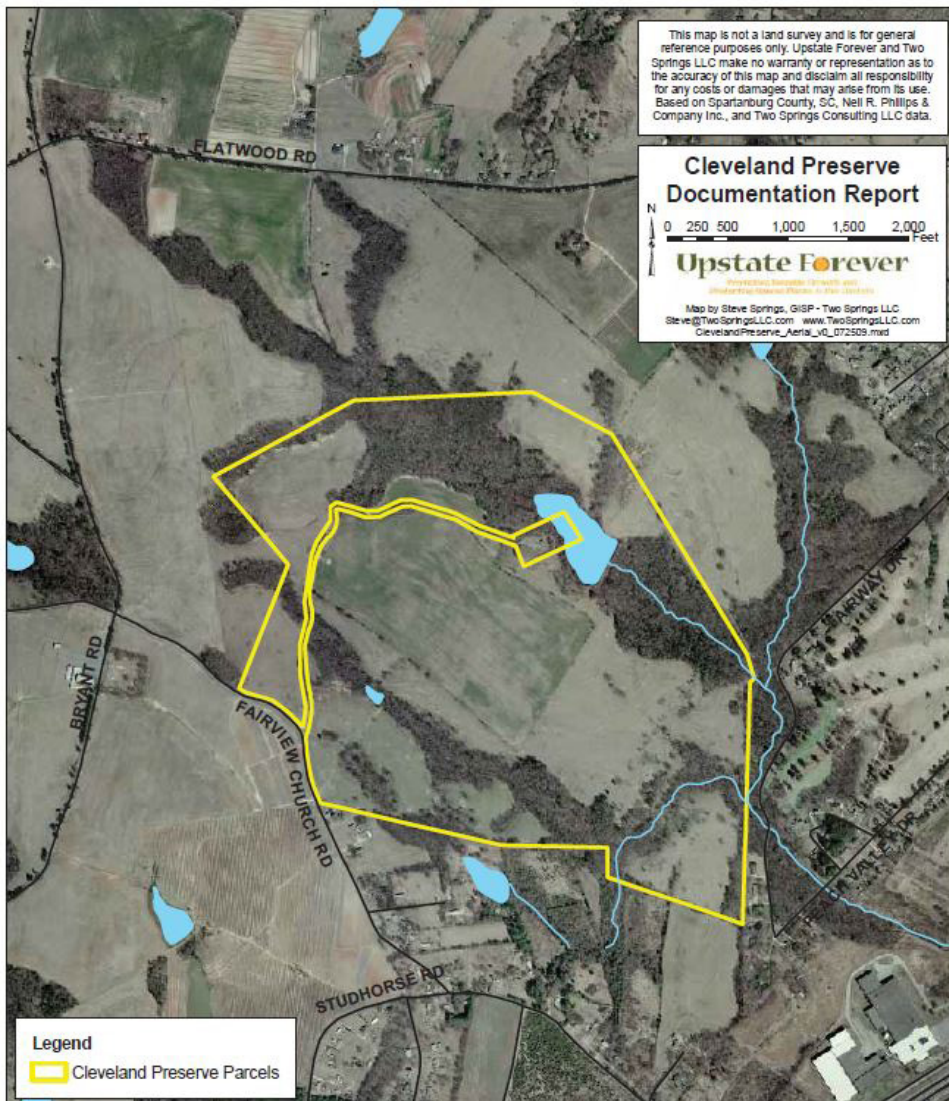


Figure 1. Map of Cleveland Preserve Farm (from the Cleveland Preserve Baseline Documentation Report 2009)

UNITED STATES DEPARTMENT OF AGRICULTURE'S (USDA) LOCAL FOOD PROMOTION PROGRAM (LFPP) GRANT

SPACE submitted a proposal in 2015 to the USDA for an LFPP planning grant for the Cleveland Preserve Farm. SPACE was interested in the feasibility of implementing farm-to-school programs at the Farm. They were awarded the planning grant in the fall of 2015 resulting in this study. The details of the process are discussed in the Feasibility Study Process and Methodology section.

SPACE CLEVELAND PRESERVE FARM FARM-TO-SCHOOL INCUBATOR FEASIBILITY STUDY REQUEST FOR PROPOSALS

After SPACE was awarded the LFPP grant, they released a Request for Proposals (RFP) for the feasibility study. The “(d)esired outcomes for this study are a recommended plan for developing a farm-to-school incubator, including a recommended organizational structure and guidelines for working with School District Six and other partners.”

In addition to production, education, processing, and safety, the study is to address organizational structure and sustainability. Prior to the commencement of this study, the SPACE Executive Director and the consultants agreed that these desired outcomes are oriented towards program planning and that it would be more appropriate to first conduct a study to determine the feasibility of the program. As such, this report is focused on program feasibility. However, the stated desired outcomes are addressed in the report.

The target audiences for the study are the SPACE staff and board, USDA LFPP, Spartanburg area food systems stakeholders, and foundations and grant-awarding agencies.

STATEMENT OF NEED

THE BIG PICTURE

Prior to the 1940s, most regions of the US produced their own food. Beginning with the New Deal, agricultural support programs, tax policies, and agriculture labor policies have been linked to total productivity (by volume) of the farm enterprise. The larger the farm, the more Federal support it receives. These farm policies have led to the well-documented decline of the small family farm in favor of large-scale industrial agriculture. Huge mono-crop farms are concentrated in regions conducive to the growing of specific crops. Transportation and distribution networks designed to bring these crops to distant markets have replaced the traditional local and regional farm-to-market and market-to-table system in which the majority of local food demand was met by nearby farms. This new food distribution system is a good match for the modern factory food industry that produces the highly processed, ‘instant’ meals and the fast foods industry designed to meet the fast-paced lifestyles of a twenty-four-hour society.

But factory-processed and fast foods are prepared with preservatives, emulsifiers, flavor and color ‘enhancers’, and stabilizers. And mono-crops are specifically cultivated to endure the rigors of multiple handling over long distances and to achieve a uniform ‘desired’ appearance over flavor and nutritional value. Neither factory-processed nor foods transported over great distances have proven healthful, and there is a growing movement for the return to locally-grown, fresh, flavorful, and nutritious foods produced for local markets.

The industrial farm and factory food systems have become highly efficient and national farm policy is built around its dominance. Under normal and balanced economic conditions one could not buy at a supermarket a peach grown in Chile cheaper than one could buy a locally grown peach at a produce stand. A fast food hamburger made from imported Brazilian beef would not cost less than its equivalent weight in unprepared ground beef from a local farm purchased from a corner butcher shop.

The industrial farm / factory food system is built around oil. Oil supplies the energy for the giant farm equipment and the vast air, sea, and land distribution systems. The millennia-old practices of regenerating the soil through composting, crop rotation, and fallow seasons has been replaced by continuous mono-cropping not dependent on soil health, but rather

dependent on petrochemical (oil-based) fertilizers. Mono-cropping also invites blights and insect infestations which are controlled by petrochemical pesticides and herbicides. At some point, the world's supply of oil will be expended. Some projections suggest that production from the world's proven reserves is at or near peak and will start a continued decline towards depletion. Supply from theoretically recoverable reserves from areas such as the Arctic and Antarctic could last perhaps another century if the energy expended to extract the oil from these remote and hostile reserves does not surpass the energy gained at the wellhead. Climate science tells us that if we are to avoid the worst disasters of global warming, much of the remaining oil reserves will need to remain in the ground. Therefore, it is a vital matter of food security that a robust local food system is established now to meet the demand in the not too distant future when the industrial farm / food factory production and global distribution system will no longer function.



Figure 2. Tractor spraying pesticides on a large farm (from depositphotos)

The local food systems are struggling to find the ways and means to compete and flourish, and the need for the local food systems to succeed and flourish has never been greater. The few successful local farms that have survived have found ways to plug into the current markets driven by the efficiency of the large distribution and transportation hubs or they are just making ends meet with second jobs away from the farm. The somewhat haphazard and uneven network of farmers markets, food co-ops, and community supported agriculture (CSAs)¹, that is referred to as a local food system has yet to achieve the efficiencies of the industrial farm and factory food system. The economics of farming is still stacked against the small farmer.

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The rapid growth of academic literature concerning local food systems, national and regional agricultural programs focused on local food, local farmers markets, and grass-roots local food systems work in the past 10-20 years is further evidence that there is a need for systemic change and that the change is beginning to take place.

¹ According to USDA a "CSA consists of a community of individuals who pledge support to a farm... with the growers and consumers providing mutual support and sharing the risks and benefits of food production. Typically, members or "share-holders" of the farm or garden pledge in advance to cover the anticipated costs of the farm operation and farmer's salary. In return, they receive shares in the farm's bounty throughout the growing season, as well as satisfaction gained from reconnecting to the land and participating directly in food production."



Figure 3. Screenshot example of a USDA local food system program tool

THE LOCAL NEED

The need for programs that bridge the gap between farmers and institutions such as schools, as well as the need for realignment of the current food system to meet the increasing demand for local food, has been growing in Spartanburg, the state, and in the nation in recent years. The following facts provide evidence that a cultural shift is taking place in Spartanburg County and in South Carolina:

- The growth of the Hub City Farmer's Market to over 35 vendors in the summer and a budget that grew almost threefold between 2010 and 2013
- The growth of the Healthy Eating | Active Living community and initiatives which fill the Mary Black Foundation's Conference Center each time the group meets
- Several hundreds of thousands of dollars granted by the Mary Black Foundation from 2011-2015 for healthy eating projects and programs including projects related to local food
- The opening of the Hub City Co-op. "Hub City Co-Op is a community-owned, democratically run natural grocery store. The first food co-op in South Carolina!" "Open to the public, Hub City Co-op is a full-service retail grocery store, owned by thousands of community members. We feature a wide variety of local, natural and organic foods and products." <http://hubcity.coop/>
- Spartanburg County School District 6's initiative to provide healthy, local, organic food in their schools beginning in 2014
- Local restaurants' efforts to provide local food in their dishes



Figure 4. Hub City Co-Op on Opening Day April 2016

- In Spartanburg County, from 2007-2012, the value of agricultural products sold at farm stands, farmer’s markets, and you-pick operations grew nearly 1000% – *one thousand percent* – from \$337,000 to \$3,330,000
- The establishment of GrowFood Carolina which was the first local food hub established in SC. It opened in Charleston in 2011. They provide “local farmers the sales, marketing, logistics, warehousing and distribution functions they need and that previously have been available only to large-scale industrial farms”
- The emergence of several regional SC food collaboratives in the past 5 years
- The emergence of the SC Farm to School Program in 2011 and the subsequent emergence of its umbrella organization, the SC Farm to Institution Program in 2015
- The emergence of substantial farm-to-school programs in SC, notably those in Lexington/ Richland School District 5 and Dorchester County, along with several others

The fact that District 6, which provided 1.4 million meals during the 2014-2015 school year, is finding procurement of local food very challenging is reason enough to build capacity in the local food system infrastructure in Spartanburg County. When the Spartanburg County School District Superintendents were asked, “If you do not use local food in your schools, how interested are you in utilizing local food in your schools,” 5 of the 5 respondents said they were very interested.

South Carolina government and statewide organizations are also supportive of the growth in the local food movement. The South Carolina Department of Health and Environmental Control’s (DHEC) Obesity Action Plan is aimed at lowering obesity rates in the state through promoting the use of local foods. DHEC’s Health + Planning Advisory Committee has been working with promoting local government policies which support healthy eating and sustainable local food systems. The SC Farm to Institution Program is a collaboration of several state agencies, including Clemson University,

to promote and support the growth of local food systems throughout the state by helping farmers supply to institutions and by helping the institutions to purchase local food. The SC Food Access Taskforce aims to expand the availability of nutritious

The fact that District 6, which provided 1.4 million meals during the 2014-2015 school year, is finding procurement of local food very challenging is reason enough to build capacity in the local food system infrastructure in Spartanburg County.

food by developing and equipping healthy retail and wholesale markets in underserved communities. The Task Force develops and advocates food policies addressing capital needs, affordability, supply, planning, and transportation.

However, Upstate farms do not currently have enough volume to supply Upstate institutions as stated in “Feasibility Study - a case for an Upstate SC Food Hub” and “Making Small Farms into Big Business”, nor are the infrastructure or processes in place to facilitate these transactions. There is no system in place for procuring large volumes of local food and no food hub from which to procure products from a central location. Once the Feed and Seed food hub², currently in the planning phase, comes online in Greenville, some of these barriers will be dismantled. Farmers will likely need to either increase production of specialty crops³ for local markets, and/or redirect their sales from outside markets to local markets. This process will require relationship-building with local institutions so that trust is built between the farmers and the institutions and purchasing processes are clearly communicated. Interestingly, three of the respondents to the Food Service Director survey said that more marketing materials would really help them to know when local food is available and it would also help them to let the students know that there are local food choices available.

Currently, there is no central institution in South Carolina which offers programs that address the market barriers faced by both the farmers and the schools in implementing farm-to-school programs. Based on research, surveys, and interviews, this type of centralized institution is needed in South Carolina and would be utilized. It may also draw participants from nearby states. As presented in this study, SPACE’s Cleveland Preserve Farm could house an education and training resource center designed to address these needs.

FEASIBILITY STUDY PROCESS AND METHODOLOGY

Extensive information for this study was gathered through various methods including research, interviews, and surveys. The study began with a site visit by the consultants to the Cleveland Preserve Farm. The site visit was led by the SPACE Executive Director and included a walk through a large expanse of the farm, explanation of the history of the property, the vision for the farm, and on-going plans and efforts in regards to the farm.



Figure 6. Looking out over cropland and pastureland

Figure 5. Southern part of the Preserve Farm adjacent to a creek



2 The National Food Hub Collaboration defines food hub as “a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional food producers in order to satisfy wholesale, retail, and institutional demand.”

3 The Farm Bill defines ‘specialty crops’ as: “fruits and vegetables, tree nuts, dried fruits, and horticulture and nursery crops (including floriculture)”



Figure 7. Consultant John Newman and Executive Director Andrew Waters during the site visit



Figure 8. Looking across the pond to a new spec building. The area surrounding the farm is being marketed for industrial development.

The next steps were to research, compile, and document existing plans for the Cleveland Preserve Farm and relevant area programs. These items are detailed in the “Existing Efforts and Conditions” section as well as in the Appendix under “Resources and References.”

INTERVIEWS

Compilation of existing conditions and efforts was followed by interviews with 40 people in the local, regional, state, and national food system community (see “Interview List” in the Appendix). The interviews fulfilled several purposes:

- Educated interviewees on the project, establishing relationships and a common knowledge about the project which allows for an easier discussion about future coordination and partnerships
- Informed the consultants of which programs are most needed in the community and are most possible to implement
- Provided information and resources on programs similar to those being considered in the study
- Provided information on programs and projects that may become potential partnerships

SURVEYS

Following interviews, surveys were drafted and distributed in coordination with SPACE and several key stakeholders (see separate survey results in the Appendix). Four separate surveys were sent out to four audiences: farmers, Spartanburg County K-12 superintendents, agricultural educators, and food service directors. Results of the surveys are discussed throughout this study.

The target areas for farmer survey distribution were Spartanburg County and the surrounding South Carolina counties of Greenville, Laurens, Union, Cherokee, and the North Carolina counties of Rutherford and Polk. Some of the farm surveys were submitted by farmers outside those counties, but still in the region. Surveys were distributed online to individual farmers by the consultants as well as through the Carolina Farm Stewardship Association, Farm Services Bureau, SC Department of Agriculture’s Certified SC Grown Program, and local farmers markets.

Several requests to other agencies and organizations for assistance with survey distribution were either declined or addressees did not respond.

The farmer surveys were designed to:

- Gauge interest in various programs
- Gauge interest in selling to a wholesale market like schools and other institutions
- Acquire general knowledge about audiences for future programs
- Build a database of future program participants

While the number of farmers whom the survey reached is unknown, 22 farmers responded to the survey. The timing of the survey distribution coincided with the beginning of the largest growing season in the region and this may have affected the number of responses received. Response rates may also have been affected by the survey being limited to online responses. Future surveys should take into account these two limitations. Additional questions about other local food system issues were included to limit survey fatigue with future projects.

Surveys for Spartanburg County K-12 superintendents, agricultural educators, and food service directors were sent to superintendents via the District 6 superintendent. Each superintendent was then asked to distribute the surveys to their district's agricultural educators and food service directors. This methodology ensured a greater response rate because the surveys were coming from individuals that the respondents knew personally. Of seven school districts, 7 superintendents responded. Three responses were received from the seven school districts' agricultural educators. All seven school district food service directors responded. In addition, we obtained a survey from the school district five official in charge of managing the food service contract.

ALTERNATIVE PROGRAM SELECTION

Several alternatives for program implementation at the farm were considered during the course of the study. Final selections for analysis were made based on several criteria:

- Was the alternative referenced in the Local Food Promotion Program grant proposal that SPACE submitted to the USDA?
- Does the program meet SPACE's mission of conservation?
- Does the program fit the Local Food Promotion concept?
- Was the program identified as a needed program based on the interviews and the results of the surveys?
- Is the program allowed under the terms of the conservation easement and the current lease with the farmers? (The lease is discussed in the next section)
- Does the program fit the vision of SPACE and the farm lessees?
- Is the program sustainable?

The results of this selection process can be found in the "Analysis of Alternatives" and in the "Recommendations" sections.

EXISTING EFFORTS AND CONDITIONS

When planning for future use, existing efforts and conditions must be documented and considered. The following documents pertaining to the Cleveland Preserve Farm were reviewed for this study:

- USDA LFPP grant proposal for feasibility study
- USDA LFPP grant guidelines
- Farm-to-School Incubator Feasibility Study Request for Proposals
- Conservation Easement
- Conservation Easement Amendment
- Baseline Documentation Report & Updated Baseline Report
- Plats and maps
- Natural Resource Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP) fencing, water, & gravel map, estimate, & revised estimate
- NRCS Organic Transition Plan
- Request for Proposal and Lease Terms
- Thicketty Mountain Farms' proposal to lease Cleveland Preserve Farm
- Lease with Thicketty Mountain Farms
- Information on Johnson Development's Industrial Park

Relevant information from these documents is employed throughout this study and select plans are discussed in more detail below.

CONSERVATION EASEMENT

The purpose of a conservation easement is to conserve land for its conservation value in perpetuity and to protect it from certain kinds of development. The conservation easement for the Cleveland Preserve Farm, originally entered into in 2009, was updated in 2016 to include the smaller parcel containing the house. The easement is held by Upstate Forever. The easement states that the "Grantor intends to donate the Cleveland Preserve to the Spartanburg Area Conservancy to become a nature preserve for agricultural and environmental education and passive recreation for use and enjoyment by the general public..." It allows for various agricultural structures and facilities and related infrastructure to be constructed upon completion of a master plan. It is expressed in the document that all of the allowances made in the easement should be carried out in conjunction with the conservation of the Preserve's natural resources. Recommendations for this study were based on the intent of the easement and the allowable uses defined in the easement.

LEASE AGREEMENT

During the course of the study, a lease agreement was entered into between SPACE and Thicketty Mountain Farms. Future program development and implementation will need to be closely coordinated between SPACE and Thicketty Mountain Farms. Thicketty Mountain is an enthusiastic supporter of SPACE's vision for educational programs for farmers as well as their vision for facilitating the farm-to-school process in Spartanburg County.

FENCING AND IRRIGATION

SPACE is working with the Natural Resource Conservation Service (NRCS) to implement Best Management Practices for the Farm. A NRCS EQIP plan and estimate have been made for fencing and irrigation at the Farm. The intent of the fencing is to protect the water quality of the creeks and streams on the property by keeping cattle out of the water. In addition, the farmers currently leasing the Farm will be using a technique called mob grazing which utilizes temporary fencing as the cows are shifted frequently on the property. There are also plans to install controlled cattle crossings at two places over one of the creeks. Watering infrastructure will also be installed for the cattle so that they do not have to access the creeks for drinking.

The easement states that the "Grantor intends to donate the Cleveland Preserve to the Spartanburg Area Conservancy to become a nature preserve for agricultural and environmental education and passive recreation for use and enjoyment by the general public..."

SPARTANBURG COUNTY SCHOOL DISTRICT 6



A major development in the local food system in Spartanburg County was the decision of Spartanburg County School District 6 to end their contract with their food service provider in the 2013-2014 school year. With approximately 10,000 students, they served around 1.4 million meals during the 2014-2015 school year and expect to serve even more in the 2015-2016 school year. Their vision was to use as much minimally-processed, locally-produced food as possible in their schools. They would like to use organically-grown food if it is available and affordable. They were surprised to find it was difficult to get enough local food to meet their needs. As they work to increase the amount of local food used in their schools, they are using Taylor Boys' Produce, a produce distributor in Enoree, SC. However, not all of Taylor Boys' produce comes from local or regional markets.

Realizing the many benefits to being involved and invested in the local food system, the District is weaving local healthy food and agriculture throughout its curriculum. Additionally, District 6 has been in discussions with SPACE about partnering on programs at the Cleveland Preserve Farm for over a year. As the first district in the county to undertake such a large farm-to-school project, District 6's intentions are discussed throughout this study. It is expected that their endeavor and their partnership with SPACE will help develop many tools and processes for an efficient model for other schools and institutions in the county and the region to follow.

ADJACENT INDUSTRIAL PARK

"At the time the Cleveland Preserve Farm was donated to SPACE, the adjoining area of approximately 2,000 acres was sold to Johnson Development Associates (JDA), one of the largest real estate developers in the community. Currently JDA has plans to develop this area as an industrial park. Within the last year a Rite-Aid Distribution Facility has been opened on an adjacent tract, as well as a spec building that is currently being marketed to industrial buyers. While this development will create environmental impacts on the SPACE Farm, there is also an opportunity to partner with JDA, Rite Aid, and other prospective companies. Currently SPACE is in discussions with JDA to incorporate the SPACE Farm in a master planning process for the area to include recreational amenities for corporate tenants and employees. These discussions also include a possible retail component, so that employees at the industrial park could acquire products produced and/or marketed by the farm on their lunch hour or way home, etc. Educational and outreach programs on the farm could also be promoted to neighboring employees within the industrial park, as well as corporate partnership campaigns for SPACE and Thicketty Mountain Farms." – Andrew Waters, SPACE Executive Director

ANALYSIS OF ALTERNATIVES FOR A FARM-TO-SCHOOL INCUBATOR

INTRODUCTION

The SPACE Request for Proposal was to conduct a feasibility study for a "Cleveland Preserve Farm-to-School Incubator Program". The desired outcomes for the study were to make recommendations for a plan for "developing and funding the Farm-to-School incubator, including a recommended organizational structure and guidelines for working with School District Six and other partners." The following section discusses Farm-to-School programs and farm incubator programs. Next, a Farm-to-School Incubator Program is examined and an alternative, "Cleveland Preserve Farm-to-School Resource Center," is recommended. The complete and detailed list of recommendations are located in the "Implementation Recommendations" section of this report.

FARM-TO-SCHOOL PROGRAMS

A farm-to-school program can generally be defined as a program that connects schools with local farmers. The objectives of such a program are to improve student nutrition, provide student educational opportunities in agriculture, health, and nutrition, and to support local and regional farmers.

The South Carolina Farm-to-School Program is a collaborative effort of The SC Department of Agriculture (SCDA), the SC Department of Health and Environmental Control (SCDHEC), The SC Department of Education (SCDE), and Clemson University. Participating schools must agree to:



- Serve at least two SC grown fruits and/or vegetables per month in their school cafeteria
- Promote SC grown fruits and vegetables as part of the school meal and in the cafeteria
- Integrate nutrition/agriculture education through hands-on learning activities
- Establish or revitalize a vegetable and/or fruit garden at the school

Each year, the SC Farm to School Program awards schools with mini-grants (currently \$4,000 per school) to implement these four core components of Farm-to-School. In addition to grant funding, awarded schools get technical assistance from program staff throughout the entire school year and access to training programs that include a one-day workshop (Action Institute), Garden Workshop, and Culinary Training. To date, 162 mini-grants have been awarded to schools in South Carolina. The SC Farm to School Program is considering developing additional resources to address the farm side of the process.

Current Efforts

Lexington/Richland School District 5

District 5 received a USDA Farm-to-School grant in 2013 and a second grant in 2016. Some highlights of the Lexington/Richland District 5 Farm-to-School Program include:

- The Center for Advanced Technical Studies is where students from the district's high school students go for specialized classes including agricultural education. The school has a garden and will have 1-2 acres under production in broccoli. The school district is buying the broccoli from the garden and broccoli production for the schools will be increased when they have flash freeze capacity. The agriculture education students are in charge of the garden.
- A mobile processing facility will be built with the 2016 grant funds. This facility will have flash freezing. Local farmers participating in the Farm-to-School program will be able to rent the processing facility at a reasonable rate to prepare their produce for delivery to the schools.
- Currently, the majority of the produce not produced from the school gardens comes from large distributors like Senn Brothers and Rawls Farms. The district wants to build agreements with local farmers to supply more of the produce for the Farm-to-School Program. In the 2014 - 2015 school year, they did contract with Gallop Farms to deliver sweet potatoes to the schools.

Dorchester County School District 2

A school garden has been established on the Ashley Ridge High School Campus in Summerville. Students help in the garden and receive education in farming. Vegetables from the garden are served in the school cafeteria resulting in a 500% increase in vegetable sales and consumption. The success of the Ashley Ridge High School garden led to a farm-to-school grant from Boeing to establish school gardens in all 22 District 2 schools. Now fresh vegetables are available at each school's cafeteria. Cafeteria managers received training on how to prepare fresh vegetables. Ashley Ridge is currently developing a ten-acre farm near the school that will include a greenhouse and refrigerated storage.

Spartanburg County School District 6

A school does not have to be a participant in the SC Farm to School Program to implement its own farm-to-school program. Spartanburg County School District 6 has not applied for the SC Farm to School Program, but has taken a number of steps towards developing its own robust program.

Despite the large volume of meals served daily, the school district made a decision to take control of the nutritional needs of the schools by ending its food service contract after the 2013-2014 school year. District 6 then began the process of training the cooking staff to prepare meals from fresh foods purchased directly from area distributors. As with Lexington/Richland District 5, Spartanburg District 6 has found it difficult to secure supply agreements directly from local farms. Local farms, in-large, lack access to the transportation, food processing, aggregating, storage facilities, and the training needed to economically supply to institutional markets. The district does hope to begin purchasing lettuce from Tyger River Smart Farm, an automated indoor hydroponic growing facility in Duncan, SC, as well as other local producers.

In the fall of 2015, District 6 hired a Farm-to-School Coordinator, Dylan Nitzkowski. One of Dylan's objectives is to establish a school garden at each school. In addition, the district has secured space for a farm at the Walnut Grove Plantation. The 120-acre farm is under conservation easement with approximately 40 acres that are arable. They hope to start planting on the farm in 2016. They want to grow organically if they can procure organic seedlings. They are currently working to build a greenhouse that will be used next year for hydroponics, aeroponics, and aquaponics. The district's agricultural education classes will be involved in building and operating the greenhouse. They will initially grow lettuce and herbs.

Local farms, in-large, lack access to the transportation, food processing, aggregating, storage facilities, and the training needed to economically supply to institutional markets.

School District 6 recognizes the need for agricultural education in the schools. They are focused on developing a holistic approach to school health and nutrition. Their philosophy is that the more exposure the school kids have to growing and eating healthy foods, the better. District 6 is also interested in building relationships within the larger food system as farmers shift from shipping their product to distant markets to supplying new local outlets.

They are interested in partnering with the Cleveland Preserve to provide agricultural training and education. They are also very interested in procuring beef, poultry, eggs, and produce once the Cleveland Preserve is in production.

ALTERNATIVE: FARM INCUBATORS

The following definition is taken from The Farm Incubator Toolkit and succinctly describes the commonly accepted goal of a farm incubator program: "Like traditional business incubators, farm incubator projects aim to help new and beginning farm entrepreneurs establish their own successful businesses by providing specific resources and services that are difficult for start-up entrepreneurs to access on their own. The types of resources and services offered by farm incubator projects vary depending on geographic area, demographics, funding, and other factors. However, the overall goal of farm incubator projects is consistent: to minimize the barriers to entry for aspiring and beginning farmers."

Common farm incubator methods for removing barriers to entry include:

- Land – provide low-cost or rent-free land to farm
- Infrastructure – provide low-cost or free access to equipment, tools, and other infrastructure such as barns, walk in coolers, wash stations, greenhouses, and utilities such as irrigation, water, and electricity
- Knowledge – Provide training through workshops, classes, field trips; provide connections with outside experts and/or mentor farmers, provide on-going technical assistance with all stages of farm operations
- Markets – Connect participants with farmers markets, restaurants, Community Supported Agriculture (CSA) and food co-op programs, and other markets
- Capital – Assist participants with business, record-keeping, and marketing skills; assist participants with loan and grant applications and access to other sources of capital.

Farm Incubators in South Carolina

There are currently two farm incubators in South Carolina: Dirt Works on Johns Island and Clemson University's Farm Incubator at their Sandhill Research and Education Facility in Columbia.

Dirt Works, Johns Island

Dirt Works is the farm incubator program of Lowcountry Local First, a non-profit organization that supports local, independent businesses and farmers in the Lowcountry Region. The following is from the Dirt Works website: http://lowcountrylocalfirst.org/wp-content/uploads/2014/10/Dirt_Works_Incubator_Farm_2016_Infosheet.pdf

"The Dirt Works Incubator Farm was developed for new and beginning farmers (10 years of experience or less) ready to launch their new farm businesses and is the first and only incubator farm in South Carolina. The program is designed for farmers passionate about growing their operations in South Carolina using sustainable production techniques and focused on growing vegetables and fruits for market. Currently, the farm is comprised of a packing facility, a teaching farm and acreage for up to 4 Incubator Farm operations. Dirt Works is located in the heart of rural Johns Island, conveniently located 20 miles from the City of Charleston, providing the perfect bridge between these communities."



Figure 9. Dirt Works Incubator Farm and Participants 2014 (Photo courtesy of Dirt Works and Claudia Seixas)

Dirt Works Provides:

- Lease for 1 acre of arable land with mainline irrigation, renewable for up to three years
- Three years of business and production support with full-time farm manager
- Weekly scheduled check-ins with farm manager
- Packing facilities with washing and pack stations, storage racks, scales, and walk-in cooler with two zones
- Access to Kubota L3901 tractor with front loader (training provided as needed by farm manager)
- Shared access to three-point disc harrow, tool with three-foot bedder or sweeps, cultivator, bush hog, tiller, compost spreader and basket weeder
- Shipping container for tools/dry storage
- Two wells with pumps and mainline irrigation
- Greenhouse
- Restroom facilities
- Annual Membership to Lowcountry Local First and access to extensive Farm Services

Participants Must Provide:

- \$500,000 liability insurance coverage
- Seed, fertilizer, and drip tape
- Soil building practices
- Transportation and housing
- Outlet for produce

Participant Fees

- Year One: \$2,000 paid in automatically drawn monthly payments
- Year Two: \$3,000 paid in automatically drawn monthly payments
- Year Three: \$4,000 paid in automatically drawn monthly payments

The entire Dirt Works Site is 8 acres. They just recently reduced the size of their plots from 1.5 to one acre. The maximum number of tenants is four and there is a waiting list.

Clemson Farm Incubator, Clemson Extension Service Sandhill Research and Education Center, Columbia

The Clemson Incubator is still under development with participants signed up to lease a plot when the program becomes operative.

Clemson Will Provide

- Greenhouse
- Cooler
- Packing house
- Dry storage
- Farm equipment – tractor and attachments
- Utilities including irrigation
- Value-added kitchen
- Safety and operational training

Participants Must Provide

- Seed
- Remediation (pest and weed control)
- Additives (soil amendments, fertilizer)
- Market for produce

Participant Fees

- Plot fee: \$350 per year – currently there are 10 one-half acre plots
- Required training and education will be extra at a “minimal” cost on an as needed basis determined by the level of experience and the needs of each participant
- Value-added kitchen \$6.00 per hour

Modern Harvest Farms

According to Thomas Leonard of Modern Harvest Farms in Woodruff, an incubator farm is something that they would like to do in the future and would be interested in coordinating farm incubator and/or farm-to-school efforts with SPACE.

Farm Incubator Financial Plan

The operative term and intent of a farm incubator program is to remove barriers to entry for aspiring and beginning farmers. By their very nature, farm incubators cannot be financially self-supporting. The vast majority (68%) of farm incubator programs are run by non-profit organizations. Other programs are run by universities or government agencies.

The two SC farm incubator programs are run by non-profits (Dirt Works on Johns Island) and a university (Clemson Sandhill Station in Columbia).

Charging farmer / participants the full cost to provide land and support services would defeat the whole intent of the program. Whereas revenue from low-cost lease of farm plots and possible commission on food sales can be included in annual revenue projections and be a significant source for the annual operating budget, other on-going sources of funding will be needed to subsidize this revenue stream. Capital start-up costs will rely on grant funding and individual or local government and/or organizational support. A long-term financial plan is essential to the success of any farm incubator program. A financially sustainable incubator project will cultivate diverse funding sources without heavy dependence on any one funding source.

Grant Sources for Farm Incubator Programs

The following grant sources are listed in the Farm Incubator Toolkit. Note that these programs and their funding depend on congressional appropriations.

- CFP – Community Food Projects
- BFRDP – Beginning Farmer and Rancher Development Program
- RMA / RME – Risk Management Agency (and Regional Risk Management Centers)
- OASDFR – Outreach and Assistance to Socially Disadvantaged Farmers and Ranchers (2501 Program)
- FMPP – Farmers’ Market Promotion Program
- Specialty Crop Block Grants (via State Department of Agriculture)
- SARE – Sustainable Agriculture Research and Education (Farmer, Research & Education, Professional Development, Community, Partnership)
- Regional Integrated Pest Management (IPM) Grants
- Natural Resource Conservation Service CIG (Conservation Innovation Grants)
 - EQIP (Environmental Quality Incentives Program)
 - AMA (Agricultural Management)
 - Farm Service Agency (FSA) Loan Programs
- RBEG (Rural Business Enterprise Grants)
- USDA Value-Added Producer Grants
- ORR/HHS RAPP – Refugee Agricultural Partnership Program
- Local Community Development Block Grants [CDBG–administered by Spartanburg County government’s Community Development Department]

Additional local grantors may include:

- Mary Black Foundation - Healthy Eating/ Active Living grants
- Spartanburg County Foundation
- Women Giving of Spartanburg

Farm Incubator Capital and Operational Costs

The following budget figures for a farm incubator envisioned for the Cleveland Preserve Farm are based on costs reported for the Clemson Extension Sandhill Incubator and the Roots Memphis Incubator in Memphis, TN.

Equipment

- Farm tractor with attachments \$125,000
- Walk behind tractor with attachments (good for small plots of one acre or less) \$9,000

Facilities

- Greenhouse \$7,000
- Cooler (10 x 12) \$10,000
- Value added kitchen (optional) \$60,000
- Packing House \$7,000
- Dry Storage \$4,000
- Portable toilets \$70 per month

Infrastructure

- Irrigation (not including grading and site prep) \$10,000
- Deer fencing (five acres) \$2,500

Staff

New position: Farm Manager \$60,000 per year (salary, taxes, fringe). Regardless of the actual number of staff, existing staff (including the farm manager position) will need to provide the following functions:

- Administration - overall oversight of the program
- Business management - bookkeeping, financial management, office support
- Farm site management - grounds, facilities, infrastructure, field training
- Farm training, education, and outreach - develop curricula, conduct training, promote program to the public, enroll participants, provide technical assistance
- Marketing development - assist farmer participants in accessing markets for their produce
- Contract/volunteer trainers, instructors, facilitators, tour guides

ALTERNATIVE: FARM-TO-SCHOOL RESOURCE CENTER

The SPACE Request for Proposals calls for a “Farm-to-School Incubator Feasibility Study.” Considering the definition of a typical farm incubator as small farm plots provided to new and beginning farmers along with training and infrastructure, a farm incubator focusing on the participants marketing their produce to a farm-to-school program requires careful consideration. Emerging farmers who would be the benefactors of incubator plots and who hope to have their own start up farms typically cannot afford to sell to schools at the wholesale or less price points schools can pay. They require the highest prices they can get for their products. This often involves direct sale to the public such as through CSA programs and farmers markets with low commission charges. New farmers need to concentrate on growing products that they are most experienced with and that are in high market demand. Tailoring farm operations to meet school requirements may prove too difficult and restrictive to inexperienced farmers just starting out because:

- School demand is seasonal and often tied to the school year
- School produce requirements are driven by USDA Guidelines for the National School Lunch Program, not simply what the farmer is able to produce
- School food safety standards are costly and difficult to implement for a new start-up farmer

However, upon careful review of the Local Food Production Program (LFPP) 2015 grant application, the request for proposals, and discussions with the SPACE Executive Director, the term ‘farm incubator’ has been used to more accurately describe a program in which the Cleveland Preserve would serve as a model or catalyst for other farms in the region and the state as a farm-to-school provider and educational facility rather than the more commonly known farm incubator model as discussed above. The Farm Incubator Toolkit identifies 111 farm incubator projects nationally, 6 of which are farmer training programs that do not provide access to individual plots of land. This section will describe a farm-to-school incubator as a farm education and training program Resource Center designed to address the specific issues and needs of farm-to-school (and other institution) providers. To avoid confusion among the farming and food systems community over the term, ‘incubator,’ the “Farm-to-School Incubator” will henceforth be referred to as a ‘Farm-to-School Resource Center’. Key components of the Farm-to-School Resource Center can include:

- An on-site farm-to-school pilot demonstration project
- Agricultural training and educational programs
- Agriculture research

Demonstration

A pilot farm-to-school project could be implemented on the Cleveland Preserve to demonstrate how to address the issues and the successful components of a farm-to-school program as discussed above. Processes should be documented so that they may be shared with others. The farm lessees intend to initially focus on cattle production. They have expressed an interest in becoming a meat supplier to schools and participating in a farm-to-school program. Additional issues to be considered among and between SPACE, the lessees, Spartanburg School District 6, and other partners include:

- Volumes per time unit (e.g. Pounds per week) needed by the school
- Processing and delivery
- Food safety issues specific to meat
- Financial arrangements
- Program and operational task sharing and responsibilities
- Discussions and planning for a produce farm-to-school program
- Procurement process
- Transportation/ Distribution



Figure 10. Thicketty Mountain cattle on their current farm (Photo courtesy of Thicketty Mountain Farms)

Existing Effort: Truluck Farms

Truluck Farms is located in Timmonsville, SC. The farm is now in the process of building a washing and packing facility and a chopping and bagging facility to market collards grown on the farm to Florence School Districts 1 and 4. Because of FSMA (Food Safety Modernization Act) standards, these facilities must be separate to market to the schools. Truluck Farms owner Weatherly Thomas was awarded a SC Community Loan Fund Feeding Innovation Midlands Program grant which provided her with \$12,500 seed money to build the facilities. She calls her farm-to-school business plan a hybrid wholesale model:

- Pick one crop to perfect in selling to the schools (or other institutional and wholesale markets) and figure out a system that works well enough that it will be profitable
- Diversify the rest of your business with other crops to sell to higher price point markets.

Considerations for the demonstration program

Since the lessees estimate that it will be two years before cattle operations begin to produce product, and perhaps five years before vegetables will be produced, there is ample time for the planning of a successful farm-to-school demonstration program and for smoothly scaling up the program in the future. One aspect that will need special attention is arriving at the scale of operations required in which locally sourced foods can be purchased by the schools within their food budget while providing a decent profit for the local producers. This is a common issue when aggregation and distribution facilities are not accessible to farmers. Points of consideration in regards to the scale of operation include:

- At what point can single source (schools or other institutions) high volume wholesale profits match or surpass multiple source retail profits?
- Can the school district develop additional procurement policies that give a percentage differential for locally sourced foods over non-local low bids?

Farm-to-School Demonstration Program Operational Considerations

Alternative Markets

A pilot program can focus on providing products that have been discussed and agreed upon with School District 6. However, for farm operations to remain viable, crops will have to be produced in all seasons, regardless if school is in session or not, and livestock production is a continuous process. In addition, cuts of beef not within the schools' budgets to procure must also be sold. Therefore, alternate markets other than the schools must be secured. Other institutional markets would be an ideal choice as processing and distribution practices are similar among most institutional markets allowing for maximized efficiency and economies of scale. Sales to local retail markets such as Belue Farms Natural Foods Market and Hub City Co-Op could also be utilized. Direct retail markets for specialty crops and high end cuts of beef can also be developed to increase profit margins. Refer to the Truluck Farms hybrid wholesale business model as discussed above for related information.

Processing and Storage

Flash freezing capability, canning, and cold storage are other methods for synchronizing the seasonality of crop production with the school year demand. Crops harvested in the summer months can be processed, canned, or frozen, and stored for later use when schools are in session. District 6 has mentioned some of these as possibilities to store what they will need. The farm lessees are also aware that this is a need and they are planning to provide these facilities for their farm or work with SPACE to provide joint use facilities on the premises.

We envision the demonstration program will need to be a multi-year project in which the outcome will result in a farm-to-school program as a successful component of the local food system and the project can serve as a model for other farms and school districts.

Farm-to-School and Agricultural Education and Training Programs

One of the intentions that the original grantor of the Preserve had, as stated in the conservation easement, was for the farm to be used for agricultural education. The SPACE Executive Director has clarified that the agricultural structures and activities allowed in the conservation easement include agricultural educational facilities. The Cleveland Preserve Lessees are in agreement with a mission of agricultural education for the farm operations.

Several of the people interviewed validated that educational programs were a good fit for the Cleveland Preserve Farm. While all of the programs discussed below may not directly educate about the farm-to-school process, they would support the process by increasing farmers' knowledge about subjects that will sustain local farms and allow them the opportunity to sell to schools and other institutions and wholesale markets in the future. It would be ideal for SPACE to constantly gauge the community's needs for classes so that valuable offerings are always being provided. Several class options were identified in interviews and research that would be good fits for the Cleveland Preserve Farm. Those classes, along with possible implementing partners, are listed below and either relate to the farm-to-school process or support a robust local food system upon which a successful farm-to-school program will rely. SPACE would be a partner in all of the programs. This is a representative listing and is not intended as a comprehensive inventory of all potential educational programs or program partners.

| Class(es) or Program(s) | Possible Partner(s) |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Organic animal husbandry for K-12 Agricultural Education students | Spartanburg County School District 6* and other interested districts, Thicketty Mountain Farms* |
| 4-H classes and programs | Clemson Extension*, School Districts, Thicketty Mountain Farms* |
| Future Farmers of America classes and programs | School Districts, Thicketty Mountain Farms* |
| Educational opportunities for students and farms on farm-to-school production | School Districts, Thicketty Mountain Farms |

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Processing and food safety issues in farm-to-school production: training farmers, food service staff, and food distributors about GAP (Good Agricultural Practices) protocols, and other issues in farm-to-school production. | Carolina Farm Stewardship Association* (GAP training), Clemson Extension, School Districts |
| How to sell to schools and other institutions for farmers/ Wholesale Success Training | Atina Diffley, Weatherly Thomas |
| Production and crop planning including addressing seasonality of production with seasonal school demand | Clemson Extension, School Districts |
| Farm succession classes | Farm Bureau |
| Marketing for farmers | |
| Finance for farmers | |
| Clemson's SC New and Beginning Farmer Program*** | Clemson University* |
| Various production topics*** | Clemson University* |
| Sustainable farming practices/ Soil building/ Mob grazing** | Thicketty Mountain Farms* |
| Organic farming practices/ Organic certification process and training/ Organic transition workshops | Thicketty Mountain Farms*, Carolina Farm Stewardship Association* Clemson University |
| Seasonal high tunnel workshop | Carolina Farm Stewardship Association* |
| *indicates that the corresponding class or program or a similar program at Cleveland Preserve Farm was discussed with this partner and thought to be a possible candidate for implementation | |
| **The farm lessees have teaching experience and they utilize sustainable and organic farming practices and are willing to participate in a Cleveland Preserve Farm education program. | |
| ***Dependent upon funding availability or collaboration opportunities | |

68.2% of the farmer survey respondents said that they were interested in taking classes to learn more about marketing their products as well as to learn more about different farming practices. These results are consistent with responses from the Midlands Local Food Collaborative's Farmer Survey (details can be found in the Appendix.) Respondents mentioned several other types of classes they would attend and those can be found in the Appendix in the Farmer Survey Summary.

Training opportunities include:

- Internships - The farm lessees have extensive experience of working with farm interns both in cattle and crop production and are willing to participate in a Cleveland Preserve Farm internship program
- Incubator plots as discussed above

Other agricultural education opportunities identified include:

- Farm tours
- Seminars, workshops, and similar programs
- Mentor connection programs - 59.1% of the farmer survey respondents said they were interested in being connected to other farmers through a mentor/ beginning farmer program

Financial Plan for Educational, Training, and Demonstration Programs

As with the more conventional farm incubator model, a long-term financial plan is essential to the success of the training and demonstration facility. Although less capital-intensive, there are similar considerations for start-up costs, operations, and staffing budgets as enumerated above for farm incubator programs. The annual revenue will depend on the objectives and mission of SPACE for the Cleveland Preserve. A program could potentially be financially self-sustaining with classrooms, seminars, field trips, special events, etc. and registration fees structured to cover all costs. Conference centers can generate significant income. However, if the mission is primarily focused on education, the long-term viability of the local and regional food system, and the health of the school children and the community at large, then low- or no-cost programs may be more in line with these objectives and in order to reach the target audience. In that event, program costs will need to be subsidized by other revenue streams.

A frequently used funding source for meetings, seminars, class series, and special events is to find sponsors for individual programs and activities. Program costs for educational and training programs specifically designed for schools and other organizations can be shared or fully covered by these entities. Single event sponsorship is often easier to obtain than long-term financial commitments. There are numerous potential sponsors for such events. A few possible sponsors are:

- The Carolina Farm Stewardship Association
- Clemson Cooperative Extension Service
- The SC Farm Bureau
- Palmetto Proactive Healthcare
- Bluecross Blueshield of SC
- Hub City Farmer's Market
- Mary Black Hospital
- Spartanburg Regional Healthcare System
- Mary Black Foundation
- Robert Wood Johnson Foundation

Many of the above-listed potential event sponsors could also be actively involved in event planning and participation.

Fundraising Events

A significant source of revenue can come from fundraising events such as farm dinners, music festivals, craft fairs, food cook-offs, etc. Event sponsors as discussed above can cover most if not all of the costs and ticket sales as well as food and beverage commissions can be mostly profit. Volunteers can cover most of the event staffing needs. People feel very good about contributing to a good cause when they are having fun doing it. An idea of a potential fundraising event would be for SPACE to provide a farm dinner featuring local food at the Cleveland Preserve Farm modeled on their successful annual "Supper on the Shoals" event that features local food.



Figure 11. SPACE's Annual "Supper on the Shoals" Event (Photo from SPACE)

Such events promote awareness of the Cleveland Preserve programs and the work of SPACE. Tabling/exhibit opportunities can help promote awareness of the work of allied community partners. The use of the Cleveland Preserve for fundraising events should be specifically referenced in the master planning process so that such activities can be scoped and approved as allowable under the conservation easement.

People feel very good about contributing to a good cause when they are having fun doing it.

Special staffing needs and financial planning will be required for:

- New position: Program and events coordinator \$60,000 per year (salary, taxes, fringe). Regardless of the actual number of staff, existing staff (including the program and events coordinator position) will need to provide the following functions:
 - Administration - overall oversight of the program
 - Business management - bookkeeping, financial management, office support
 - Farm training, education, and outreach - develop curricula, conduct training, promote program to the public, enroll participants, provide technical assistance
 - Outreach and marketing
 - Contract/volunteer trainers, instructors, facilitators, tour guides
 - Fundraising and grants writing
- Classroom / meeting facility design and capacity
- Facilities maintenance and upkeep

Public Park for Agriculture and Environmental Education

The facilities required for the education and training programs could be housed in a park as allowed in the conservation easement. The conservation easement gives SPACE the right to "...construct, operate and maintain on the Cleveland Preserve a park for agricultural and environmental education and passive recreation for public use and enjoyment. Such park may include agricultural structures, facilities and fields, parking areas, restroom facilities, primitive camping, maintenance and storage facilities, pedestrian trails, boardwalks and observation decks, exhibits, benches, hiking and biking trails, picnic shelters and similar facilities, provided, however, that (a) a master plan describing the location, size and configuration of the structures, facilities, parking areas, roads, and trails shall be first prepared by Grantor and approved in writing by Grantee before any construction may begin; and (b) implementation of the master plan will not, in Grantee's reasonable opinion, impair the conservation values of the Cleveland Preserve. Approval of such master plan and any subsequent amendments thereof shall not be unreasonably withheld by Grantee."

In communicating with the SPACE Executive Director in regards to the easement explanation above, all programs, events and facilities as discussed in this section should be allowable uses within this Public Park. Participants in a potential farm incubator program might want their plots located away from the public, but there are advantages of having agricultural facilities and educational facilities located in close proximity or housed under one roof.

Costs of the proposed park will be dependent on the size, scale, and types of facilities recommended in the master planning process. Park maintenance and upkeep would need to be considered in the annual operation budget and should be a consideration in structuring program income from event registration fees, sponsorships, and grants.

RESEARCH

Another component of a Cleveland Preserve Resource Center could include agricultural research. As an example, mixing crops and livestock production is difficult for Clemson to manage, from a risk perspective, at their current research facilities. Researching methodologies for safely combining organic crop and livestock production could fulfill this need. The Cleveland Preserve farm lessees are currently working with Clemson on forage research and could extend their research relationship.

IMPLEMENTATION RECOMMENDATIONS

INITIAL STEP

SPACE should begin to offer space at the Cleveland Preserve as a venue for agricultural educational programs. As just one example, the South Carolina New and Beginning Farmer Program is a program of the Clemson University Cooperative Extension Service. The class of 2017 program includes core workshops in Columbia on Exploring Farming as a Business and Taking Your Farm Business to the Next Level. Pending grant funding, these core workshops will be complemented by regional workshops held throughout the state. A New and Beginning Farmer Program regional workshop could be a perfect opportunity to debut the Cleveland Preserve as the go-to agricultural education venue in the Upstate. Ideally, the lake house could be modified to accommodate the required space by removing interior partitioning walls. If time and funds would not allow, outdoor rental tents and canopies in a farm setting would not be inappropriate. The lake house as is could still be utilized for kitchen, storage, rest rooms, etc.

MASTER FACILITIES PLAN

Plans for any structure or facilities allowed under the conservation easement must first be submitted for approval by the grantee (Upstate Forever) in a master plan. This includes the Public Park for Agriculture and Environmental Education: "...a master plan describing the location, size and configuration of the structures, facilities, parking areas, roads, and trails shall be first prepared by Grantor and approved in writing by Grantee before any construction may begin; and (b) implementation of the master plan will not, in Grantee's reasonable opinion, impair the conservation values of the Cleveland Preserve. Approval of such master plan and any subsequent amendments thereof shall not be unreasonably withheld by Grantee."

Except, perhaps, for "initial step" activities as described above, any program implemented pursuant to this study as well as structures needed for farming operations are dependent on a prepared and approved Master Facilities Plan. Therefore, it is of paramount importance that funding is secured for the preparation of a Master Facilities Plan.

It must be stressed that approximately 290 acres of the 300 acre Cleveland Preserve is leased under a seven-year contract with a five-year extension option. Therefore, any plans for facilities, structures, trails, and other changes or improvements to be located on the leased property would necessarily require planning and coordination with the lessees, and contractual arrangements will be required. The lessees are aware of and are in accord with the SPACE mission for the Cleveland Preserve. Their involvement in every step of the master planning process will be required to ensure the success of any program or activity planned for the Cleveland Preserve. Perhaps farming operations and training, educational, and incubator programs would both benefit from shared facilities. Such arrangements would be part of the master planning process between SPACE and the lessees.

Plans for potential shared use of grounds and facilities with the adjacent industrial park as discussed in the Existing Efforts and Conditions section should also be addressed in the Master Facilities Plan.

We recommend a future-oriented "big ideas" approach to the master planning process. All facilities and infrastructure both necessary and desired to implement SPACE programs and to facilitate farming operations should be considered for inclusion in the plan. Likewise, all facilities allowed for a public park for agriculture and environmental education as described above should also be included. An approved Master Facilities Plan will be a blueprint for current farm operations as well as program and operational development far in the future. The Master Facilities Plan may require future amendments to accommodate changes in construction detail or facilities location, but SPACE will have the assurance of pre-approved facilities and infrastructure to provide the framework for the development of future program and farm operations at the Cleveland Preserve. A budget of \$35,000 is recommended for master plan development, field work, and final product design.

FARM-TO-SCHOOL RESOURCE CENTER

Among the alternatives considered in the "Analysis of Alternatives for a Farm-to-School Incubator" section of this report, development of a Farm-to-School Resource Center is the recommended next step for the Cleveland Preserve. In examining farm-to-school programs in South Carolina and throughout the nation, four issues emerge as predominant:

1. School cafeteria staff are accustomed to preparing meals with pre-processed foods. Supplying the cooks with fresh, whole produce without adequate training on the processing, preparation, and storage of meals made from straight-off-the-farm produce will result in an unsuccessful farm-to-school program.
2. Schools seeking to establish a farm-to-school program are finding it difficult to secure agreements with individual farmers for a reliable supply of the fresh, local produce they need. Instead they are relying on the larger distributors who may buy and sell some locally sourced produce, but who also buy and sell products from out of region markets; much of which comes from large agribusiness operations hundreds and even thousands of miles away.
3. Many farmers looking for steady, high volume markets for their produce are unfamiliar with marketing to schools and other institutions.
4. Other farmers wishing to market to schools are having difficulty finding a way to make a profit from school markets because the low price points schools are able to pay.

Clearly, there is a need for specialized education and training for both schools and farmers on how to establish a successful and sustainable farm-to-school program. Cleveland Preserve Farm could fulfill that need. Training and educational programs are far less capital-intensive than other programs under consideration. The “Analysis of Alternatives” section also identifies the need for agriculture educational programs not directly related to farm-to-school. Farm-to-school would ultimately benefit from these programs through the general growth and strengthening of the local food system.

General agricultural education, as well as environmental education programs are in keeping with the goals for the Cleveland Preserve as given in the conservation easement. Good stewardship of the land benefits both farming and the environment. The conservation plan that SPACE and the NRCS have developed to govern farming practices as well as the mob grazing practices of the farm lessees ensure environmental protection of the land and water on and around the Cleveland Preserve.

Clearly, there is a need for specialized education and training for both schools and farmers on how to establish a successful and sustainable farm-to-school program. Cleveland Preserve Farm could fulfill that need.

Existing Resources

- The lake house is an existing facility that could be quickly utilized for small-venue educational programs. How quickly this could occur would depend on the lease/rental agreement between SPACE and the current occupant of the house.
- The farm lessees have extensive experience with interns at their Thicketty Mountain Farm operations. Internships could continue at their Cleveland Preserve farm. Currently such internships would focus on the lessees’ farm operations. Discussions between the lessees and SPACE are recommended to determine how farm internships could complement SPACE training programs.
- We recommend that the Farm-to-School Demonstration Program be part of the planned cattle and produce operations on the farm. Discussions, arrangements, and planning among SPACE, the lessees, and School District 6 will need to be made to arrange for a portion of the farm’s produce to be marketed to District 6. Because of the price point at which the schools can pay for beef and vegetables in comparison to the price Thicketty Mountain Farms can normally command for their products, some sort of initial compensation or subsidy may need to be considered. However, the goal of the demonstration project should be to create a local food system that includes a successful, sustained, and profitable farm-to-school program. The objective of the pilot or demonstration program should be to determine and create the conditions under which a single source’s (schools or other institutions) high volume wholesale profits can match or surpass multiple source retail profits. SPACE may wish to consider consulting with Weatherly Thomas of Truluck Farms to help develop a business plan for the demonstration project that is designed to meet these goals and objectives. As reported in the “Analysis of Alternatives” section, Ms. Thomas was awarded a SC Community Loan Fund Feeding Innovation Midlands Program grant for her farm-to-school business model. Ms. Thomas is also a County Extension Agent for Richland County.

- The co-lessee, Sallie Hambright-Belue, of Thicketty Mountain Farm, is an Assistant Professor at Clemson University. Sallie is also passionate about sustainable agriculture and strengthening the local food system. Again, we recommend discussions between SPACE and the lessees as to how SPACE educational programs could benefit from Sallie's farm, educational, and instruction experience.
- The co-lessee, Brent Belue, of Thicketty Mountain Farm, is a graduate of Clemson Extension's New and Beginning Farmer program and one of the leading practitioners of sustainable farming practices in the South Carolina Upstate. He will implement organic farming practices and mob grazing techniques on the Cleveland Preserve Farm.
- Current SPACE staff can provide the initial administrative and business support to develop educational programs and events at the Cleveland Preserve
- Although the adjacent property is being marketed for industrial development, SPACE has a strong partnership with the landowners, creating opportunities for a sale or donation of adjacent property for the potential location of additional infrastructure and improvements.

Needed Resources

- Although the lessees and SPACE staff are great resources for initiating agriculture educational and training programs, additional human resources will be required. The lessee's focus must be on sustainable and profitable farm operations. Any involvement of the lessees in SPACE educational and training programs must be cognizant of this fact and that their time and energy would by necessity be limited and compensation must be considered. Although assistance of SPACE staff with a Cleveland Preserve agricultural and educational training program will be invaluable, they are working full-time on many SPACE programs, and a new position of "Educational Programs and Events Coordinator" will be needed. The recommended annual budget for this position is \$60,000 (salary, taxes, and fringe). A detailed discussion of staffing needs is included in the "Farm-to-School Financial Plan for Education, Training, and Demonstration Programs" in the "Analysis of Alternatives" section.
- Larger-scale and permanent agricultural education and training facilities than can be accommodated by the lake house should be a key component of the Master Facilities Plan
 - We recommend looking at the Clemson Sustainable Agriculture Program's on-campus Student Organic Farm facilities as one potential model for the Cleveland Preserve
 - A facility suitable for a conference center should also be considered and included in the master plan
 - Space and facilities for fundraising events as discussed in the "Farm-to-School Financial Plan for Education, Training, and Demonstration Programs" in the "Analysis of Alternatives" section should also be included in the master plan. Sustainable Midlands is a non-profit organization based in Columbia, SC. Its mission is to "advocate, educate, and celebrate solutions that balance the needs of the community, the environment and the economy." A major funding stream for Sustainable Midlands is from fundraising events. We recommend contacting Program Coordinator, Genevieve Taylor, as a valuable resource for planning, developing, and orchestrating fundraising events.
- Existing studies and interviews with Upstate food systems professionals indicate that a local food hub⁴ is a great need in the Upstate food system. In the survey of local and regional farmers, 47.6% of survey respondents said that they would sell their products to a wholesale market. 66.7% of respondents said they would sell their products to a facility that would market and distribute for them. Progress is being made on the establishment of a food hub in Greenville, SC called the "Feed and Seed." Without a food hub, schools and other institutions have to make multiple trips to several local farms to meet their needs or local farmers have to make multiple trips to various places to deliver their food. This is simply inefficient for both the farmers and the institutions, no matter their size. Efficiency gains can be made by having a central location or hub that most farmers sell their products to and then the hub distributes it back out to the institutions and other customers. Until a food hub is in operation

4 The National Food Hub Collaboration defines food hub as "a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional food producers in order to satisfy wholesale, retail, and institutional demand."

in the Upstate, utilization of local food will continue to be challenging for schools and other institutions. The existing food distributors in the Upstate are not focused on marketing local food or strengthening the local food system. Although they distribute some locally-grown food, they market what is available at the best price, including food from other parts of the nation and the world.

FARM INCUBATOR

For reasons stated in the “Analysis of Alternatives”, we do not recommend a farm incubator program which is focused on participants marketing to schools. Perhaps this will be quite feasible when the goal of the Farm-to-School demonstration project is realized. However, even a more conventional model of a farm incubator is difficult to achieve. Start-up costs are high and program revenue would have to be continuously subsidized to cover operational costs. Yet, many of the administrative, educational, and training components needed for a farm incubator program are also components of the recommended Farm-to-School Resource Center. Once the Facility is firmly established and operating, SPACE may wish to consider implementing a farm incubator program. Although crop-based incubators are what have been explored in this study, an organic cattle incubator is also a possibility. In addition to the considerable effort required to raise the capital needed for start-up costs, these additional considerations need to be made:

- The lessees plan to convert the entire farm to organic production. Farm incubators typically allow each participant to choose which farming method they will utilize. Even if the incubator program stipulates that the participants must use the organic method, new farmers could make a mistake that could jeopardize the overall farm’s organic certification.
- Although the lessees are interested in internship programs, they are not interested in participating in a farm incubator program. Therefore, it will be essential to have a farm manager on staff to manage the grounds, facilities, infrastructure, and classroom and field training. Based on other incubator programs, the full-cost (salary, taxes, and fringe) recommended annual budget for this position is \$60,000

We recommend including a farm incubator program in the Master Facilities Plan. If approved, SPACE would have the option to implement a farm incubator program at a future date. Although we would recommend starting out with around four one-half to one acre plots, the Master Facilities Plan should include approximately ten acres of plot space to allow for future expansion.

OTHER FUTURE CONSIDERATION

Farm Equipment Rental for Sustainable Agricultural Methods

As some farmers may need additional equipment in order to supply to schools, or may wish to try equipment before they purchase it, an equipment rental program may also be a good option for the Cleveland Preserve Farm once other recommended programs are well-established. Of the farmer survey respondents, 66.7% said that they did not have access to all of the equipment that they needed and 33.3% said they would rent or borrow equipment from the Boiling Springs, SC area (where the Cleveland Preserve Farm is located). Types of farm equipment needed are listed in the survey results. What would make a farm equipment rental program at the Cleveland Preserve Farm unique is that it would be focused on equipment utilized in sustainable agricultural practices.

Capital start-up costs would likely require a loan or grant funding. In Anne Arundel County in Maryland, grant funds were used to purchase the equipment and rental fees fund insurance and maintenance of the equipment. Storage would also need to be considered. Equipment rental operations would have to be included and approved in the Master Facilities Plan process.

APPENDIX

Interview List

| First Name | Last Name | Organization | Title | Subject |
|------------|-----------------|-----------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------|
| Laura | Barbas-Rhoden | Hub City Co-Op | Vice Chair of Board of Directors | Project in general |
| Matt | Barrington | USDA-Natural Resources Conservation Service | District Conservationist | Plans for Cleveland Preserve |
| Bobby | Behr | Ashley Ridge High School | Assistant Principal | Farm-to-school programs |
| Harriet | Belue | Belue Farms & Belue Farms Natural Foods Market | Owner | Survey design & distribution |
| Chad | Bishop | Greenbrier Farms | Co-Owner | Project in general, Farm-to-school programs, farm operation |
| Susan | Bowles | Lexington /Richland School District 5 | Farm-to-School Coordinator | Farm-to-school programs |
| Brianna | Bowman | National Incubator Farm Training Initiative at Tufts University | National Technical Assistance Coordinator | Incubator farms |
| Brendan | Buttimer | SC Community Loan Fund | Upstate Loan Officer | Project in general, survey distribution |
| Dr. Greg | Cantrell | Spartanburg County School District 6 | Deputy Superintendent | Project in general, District 6 plans & thoughts |
| Robin | Chanin | Global Growers | Executive Director | Incubator farms, food hubs, and wholesale markets |
| Sara | Clow | GrowFood Carolina | Operations Manager | Project in general, food hubs |
| Harry | Crissy | Clemson Extension - Charleston | Regional Agribusiness Development Agent | Incubator farms |
| Omar | Daniels | Spartanburg County School District 6 | Assistant Superintendent of Finance | Project in general, District 6 plans & thoughts |
| George | Dickert | Clemson Extension Service | Horticulture/ Natural Resources Agent | Project in general, future partnership |
| Sallie | Hambright-Belue | Thicketty Mountain Farms | Owner | Multiple aspects, survey design |
| Billy | Keels | SC Agricultural Education | Director | Agricultural Education |
| Dave | Lamie | Clemson Institute for Economic Development/ Clemson Extension | Associate Professor/ Extension Specialist | Project in general & incubator farms |
| Tommy | Leonard | Modern Harvest Farms | Co-Owner | Incubator farm |
| Anna | Lewin | SC Community Loan Fund | Chief Operating Officer | Project in general |
| Rebecca | Parrish | Women Giving for Spartanburg | Program Liaison | Funding opportunities |
| Ben | Maddin | SC Department of Education | Interim Director of Office of Nutrition | Programs, food safety, & school requirements |
| Mike | McGirr | Feed & Seed | Co-Founder & Executive Director | Project in general, survey design |
| Karen | McSwain | Carolina Farm Stewardship Association | Farm Services and Food Systems Director | Future partnership & program costs |

| | | | | |
|-------------|----------------|------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------|
| Dylan | Nitzkowski | Spartanburg County School District 6 | Farm-to-School Coordinator | Project in general, District 6 plans & thoughts, survey design & distribution |
| Stephen | Nix | Carolina Farm Stewardship Association | SC Food Systems Coordinator | Project in general, survey distribution |
| Erin | Ouzts | Innovative Rural Development Corporation | Board Chair | Project in general |
| Dr. Darryl | Owings | Spartanburg County School District 6 | Superintendent | Project in general, District 6 plans & thoughts, survey distribution |
| Scott | Park | Greenville County/ Feed & Seed | Development Services Manager/ Co-Founder | Project in general, survey distribution |
| Wes | Riddle | Memphis Roots | Owner | Incubator farms start-up costs |
| Caroline | Sexton | Hub City Farmer's Market | Executive Director | Project in general, survey distribution |
| Nikki | Siebert Kelley | Low Country First Dirt Works Incubator Farm | Sustainable Agriculture Director | Incubator farms |
| Thompson | Smith | SC Farm Bureau | Piedmont Director | Survey design & distribution |
| Derek | Suhar | Hub City Co-Op | Produce Manager | Project in general |
| Natalia | Swanson | Mary Black Foundation | HEAL Program Specialist | Project in general |
| Genevieve | Taylor | Sustainable Midlands | Program Coordinator | Special events fundraising |
| Weatherly | Thomas | Truluck Farms | Owner | Farm-to-school program logistics and economics and incubator farms |
| Ansley Rast | Turnbald | SC Department of Agriculture | Certified SC Grown Program | Survey distribution |
| Diana | Vossbrinck | SC New & Beginning Farmer Program, Clemson University Institute for Economic & Community Development | Assistant Program Director | Project in general, future partnership |
| Andrew | Waters | Spartanburg Area Conservancy | Executive Director | Multiple aspects, survey design & distribution |
| Amy | Weaver | SC Department of Agriculture | Farm-to-School Coordinator | Farm-to-school programs |

RESOURCES AND REFERENCES

This section captures many efforts, partners, and assets (in addition to SPACE's own efforts) that may support the Cleveland Preserve Farm's future programs whether it be in shared interests, research, funding, technical support, as models, or otherwise. It also contains references used in the drafting of the report. There are some brief overviews of the local and statewide efforts and several of the efforts are discussed in more detail throughout the report. Additional resources are simply listed. This is not a comprehensive list.

Programs and Organizations

4-H is a national program implemented in Spartanburg County by Clemson Extension. The program focuses on youth development and leadership through hands-on projects on subjects like agriculture, gardening, livestock, and ecology among others.

Belue Farms is a farm in Boiling Springs, SC that also has a Natural Foods Market that sells local proteins, produce, and value-added products. They are adjacent to the Cleveland Preserve Farm and farmed the land that is now the Cleveland Preserve Farm for several decades until 2015.

Carolina Farm Stewardship Association (CFSA) provides various types of support for farmers including technical, advocacy, and educational programs. Their mission is help people in the Carolinas grow and eat local, organic food. They could provide help for the Cleveland Farm project in terms of setting up the business and providing technical service on the farm. They have many resources available in regards to local food systems.

Clemson Cooperative Extension provides expertise in agribusiness, agronomy, food safety & nutrition, horticulture, livestock & forages, forestry & wildlife resources, water resources, and 4-H and youth development.

Clemson's Sustainable Agriculture Program's Student Organic Farm is a "fully operational 15 acre demonstration farm located on the Clemson University campus [that] was established in 2001 as a project under the Sustainable Agriculture Program and serves as a resource for training and education in sustainable and organic agriculture."

Clemson University is a land-grant university with various programs throughout the state related to agriculture. These programs include, but are not limited to agribusiness, sustainable agriculture, livestock-poultry health, agricultural services, research, and agricultural education. The University partners on projects statewide.

College of Charleston Farm-to-School program (Olivia Thompson)

<http://riley.cofc.edu/farm-to-school-initiative/index.php>

The Common Market Georgia "Common Market has arrived in Georgia, where we will serve the region as a mission-driven distributor of local foods from our base in Atlanta. In Georgia, we provide the infrastructure to connect public and private schools, hospitals, universities, grocery stores, communities and workplaces to good food, grown by our region's sustainable farmers and food producers." <http://commonmarketphila.org/georgia/>

Dirt Works is South Carolina's first farm incubator program. They are located on Johns Island and are focused on sustainably growing produce and fruit.

Dorchester County School District 2 Farm to School has gardens at all 22 schools in the district and is working to establish school farms that include greenhouses and refrigerated storage and will supply schools in Berkeley, Charleston, and Dorchester counties.

Edible Upcountry is a publication focused on the local food system distributed in the Upstate.

Farm Equipment Rental Program in Anne Arundel County, Maryland: <http://www.aedc.org/agricultural-business-development/farm-equipment-program>

Feed and Seed in Greenville County will be a food hub and education center. Their mission is to grow the local food system.

Francis Produce is a wholesale produce distributor in Greenville. They also have a processing facility that meets HACCP and USDA specifications.

Future Farmers of America is a "student organization for those interested in agriculture and leadership" with chapters in Spartanburg County. (ffa.org)

Global Growers "The mission of Global Growers Network (GG) is to create opportunities in sustainable agriculture in Georgia, by growing good food, training farmers, and providing economic opportunity. Global Growers is an independent 501c3 nonprofit organization based in Atlanta, GA." <http://www.globalgrowers.org/>

Greenbrier Farms is 300 acre organic and sustainable farm in Pickens County. "We produce grass fed/grass finished beef, pastured poultry, pastured pork, eggs, vegetable and flowers. A large majority of our products are sold direct to consumer through a variety programs such as farmers markets and our CSA program. We are also the pastured pork provide for Whole Foods Markets in South Carolina. We also have a premier event space with a DHEC certified kitchen where we host weddings, farm to table dinners, parties and many other events." <http://www.greenbrierfarms.com/>

GrowFood Carolina is South Carolina's first local food hub located in Charleston.

Hub City Co-Op is a community-owned grocery store in downtown Spartanburg that stocks as much local food as possible, so they have relationships with local farmers.

Hub City Farmer's Market's (HCFM) mission is to increase the supply, demand, and access to healthy, local food in Spartanburg County. They do this through several programs that include, but are not limited to, a farmers market, a mobile market, providing training and networking opportunities in regards to the local food system, and advocating for access to local food.

Innovative Rural Development Corporation “provides leadership and assistance for community self-sustainability and development across the Southeastern United States” by increasing market opportunities for locally produced goods and providing locally-driven economic opportunities. They accomplish these goals through education, technical assistance, loans, and grants. (irdc.us)

Lexington-Richland School District 5 has an active Farm-to-School program and a Farm-to-School Coordinator. Their program is detailed in the Analysis of Alternatives section.

Live Well Greenville Food Policy Scan <http://foodpolicy.livewellgreenville.org/>

Marvin's Produce is a wholesale produce distributor in Greenville that prioritizes local food, but also sells food and spices from across the nation and the world.

Mary Black Foundation's Healthy Eating | Active Living (HEAL) focus area provides grants and community networking opportunities regarding Spartanburg County's local food system.

RD Anderson Technology Center in Spartanburg County School District 6 offers agriculture courses focused on processing, production, distribution, financing and development of agricultural commodities, and natural resources.

Regional Food Systems Group is a group of people in the Upstate all working to improve the food system in the region. Discussions are facilitated by Ten at the Top and meetings take place every few months. Currently the group has three workgroups (production, processing, and market) working towards various goals.

Roots Memphis Food Academy is a farm incubator and training center aiming to strengthen the mid-south local food systems by providing the means for individuals to more easily become farmers

Clemson's Sandhill Research and Education Center supports Clemson's Extension and Agribusiness programs and is home to SC's most recent incubator farm.

SC Community Loan Fund offers technical and financial assistance for communities wishing to increase access to healthy food.

SC Department of Agriculture supports and promotes the agricultural industry in SC through various programs such as Certified SC Grown, Fresh on the Menu, and Farm to Institution among others.

SC Department of Education is a partner in the SC Farm to School Program and many other nutrition programs for students.

SC Farm to School Program is a state version of the National Farm to School Program and is focused on connecting schools with local agriculture. The SC Farm to School program is discussed in detail in this Report

SC Farm-to-School Evaluation Report is the result of a collaboration between SC Department of Health and Environmental Control, SC Department of Agriculture, SC Department of Education, and Clemson University. It is in regard to the 2011/2012 and 2012/2013 school years. The report provides information on how K-12 schools in SC are increasing the use of local food in their schools.

Slow Food Upstate seeks to educate people about food and share local food culture. It is based in Greenville and covers the 10-county Upstate region. Slow Food Upstate is one of five South Carolina Chapters of the national Slow Food USA organization <http://www.slowfoodusa.org/>

Spartanburg County Farm Bureau, a division of SC Farm Bureau, “is a grassroots, non-profit organization celebrating and supporting family farmers, locally grown food, and our rural lands through legislative advocacy, education, and community outreach.” (scfb.org)

Spartanburg County School District 6 is invested in providing healthy meals for its students produced with as many local ingredients as possible. In 2013 they discontinued the use of their food service provider and began preparing meals in-house. The District will start their own farm for educational purposes as well as to supply some food to the schools. They also offer agriculture and animal husbandry classes.

Taylor Boys' Produce is a wholesale produce distributor in Greenville that sells local produce when it is in season, and other produce when local produce is not available.

Thicketty Mountain Farms is a farm in Cowpens, SC. Owners Brent Belue and Sallie Hambright-Belue are the lessees of the Cleveland Preserve Farm.

Upstate Region Local Food Hub Feasibility Study makes the case for why a food hub is needed and contains information pertinent to the Upstate food system.

US Department of Agriculture offers various resources from grants, to research, and programs directed at supporting and promoting local agriculture and local food systems.

The Warren Wilson College Farm Is a working farm with 275 acres divided among 25 fields in the Swannanoa Valley ... "we are a diversified "mixed crop and livestock" farm, with beef cattle and hogs making up the majority of the livestock. We strive to practice "sustainable agriculture" – farming in a style that is environmentally sound and economically viable, provides valuable and satisfying work to us, and is based on the humane and careful husbandry of our cattle and swine."
http://inside.warren-wilson.edu/~farm/Aboutour_farm.php

Documents

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Brigid Tuck, Monica Haynes, Robert King and Ryan Pesch. The Economic Impact of Farm-to-School Lunch Programs: A Central Minnesota Example. 2010.

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Erpelding, Chelsey, et. al. Farm-to-School Needs Assessment: Results and Implications from Stakeholders Surveys (2012) Gretchen Swanson Center for Nutrition <http://centerfornutrition.org/wp-content/uploads/2011/04/F2S-report-CPPW-Spring-2012.pdf>

Greenville County. (December 2014). Feasibility Study - A Case for an Upstate SC Food Hub. http://www.greenvillecounty.org/apps/LongRangePlanning/uploads/Feasibility_Study.pdf

Greenville County. (May 2012). Greenville Area Food System Assessment. https://www.greenvillecounty.org/gcpc/long_range_planning/pdf/food_system_assessment.pdf

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<http://www.charlestoncitypaper.com/charleston/johns-island-gets-first-of-its-kind-commercial-kitchen/Content?oid=5142086>

Joshi, A. and M. Beery. A Growing Movement: A Decade of Farm to School in California, 2007. UEP Faculty & UEPI Staff Scholarship Paper 347.
http://scholar.oxy.edu/uep_faculty/347.

Lee, Roger. (February 24, 2014) Bobby Behr -- Helps Students, Athletes and Vegetables Grow." The Summerville Journal Scene. <http://www.journalscene.com/article/20140224/SJ01/140229902/1059>

Meter, Ken and Megan Phillips Goldenberg. (September 23, 2013). Making Small Farms into Big Business: A plan for infrastructure investments to connect small farms in South Carolina to local markets. <http://www.crcworks.org/scfood.pdf>

National Incubator Farm Training Initiative. The Farm Incubator Toolkit: Growing the Next Generation of Farmers. http://nesfp.org/sites/default/files/resources/nifti_toolkit_v2.pdf

Shakleford, Lynne P. (2014, August 4). Spartanburg School District 6 to offer students fresh, home-cooked meals. Spartanburg Herald-Journal. <http://www.goupstate.com/article/20140807/articles/140809749>

Wayne P. Miller. Economic Multipliers: How Communities Can Use Them for Planning. Community & Economic Development. FSCED6. 2009.\

Using Food Hubs to Create Sustainable FTS Programs Vermont Agency of Agriculture, Food, and Markets http://agriculture.vermont.gov/sites/ag/files/FoodHubs_FTSPProgram%20Guide.pdf

FARMER SURVEY SUMMARY OF RESULTS

The target areas for farmer survey distribution were Spartanburg County and the surrounding South Carolina counties of Greenville, Laurens, Union, Cherokee, and the North Carolina counties of Rutherford and Polk. However, some surveys were answered by farmers outside those counties, but still in the region. Surveys were distributed online to individual farmers by the consultants as well as through the Carolina Farm Stewardship Association, Farm Services Bureau, SC Department of Agriculture's Certified SC Grown Program, and local farmers markets. Several requests for survey distribution were either declined or addressees did not respond.

The farmer surveys were designed to:

- Gauge interest in various programs
- Gauge interest in selling to a wholesale market like schools and other institutions
- Acquire general knowledge about audiences for future programs
- Build a database of future program participants

While the number of farmers whom the survey reached is unknown, 22 farmers responded to the survey. The timing of the survey distribution coincided with the beginning of the largest growing season in the region and this may have affected the number of responses received. Response rates may also have been affected by the survey being limited to online responses. Future surveys should take into account these two limitations. Additional questions about other local food system issues were included to limit survey fatigue with future projects.

Key Findings

- The majority of the respondents were small farmers. 40.9% farm less than 10 acres
- 90.9% of the farmers are not GAP (Good Agricultural Practices) safety certified. 68.2% are interested in becoming GAP certified
- None of the farmers are currently certified (USDA) organic growers, yet 68.2% grow organically
- 63.6% of the farmers do not have all of the farm equipment they need and 31.8% would be interested in borrowing or renting equipment from the Boiling Springs area.
- Whereas the great majority of farmers state no need for a food processing facility or value added kitchen, 36.4% would sell their produce to a processor.

- 68.2% of the farmers are interested in selling their products to a facility that would market and distribute for them
 - i.e. a food aggregator/distributor or food hub.
- Local small farmers have done generally well over the past five years. 68.2% have seen an increase in production and 59.1% have seen their profit increase
- The majority of farmers are interested in outreach and agriculture education classes
 - 59.1% are interested in being connected to other farmers through a mentor/beginning farmer program
 - 68.2% are interested in taking classes to learn more about different farming practices
 - 68.2% are also interested in classes on marketing their products
 - This is consistent with results from the Midlands Local Food Collaborative’s Farmer Survey on a similar question is shown below:

(MLFC Survey) Would any of the following resources be helpful to you in your farming?

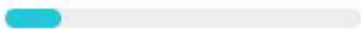
| | Yes | No | Total |
|--------------------------------------|--------------|--------------|-------|
| 1. Business/Financial Assistance | 60.56% 43 | 39.44% 28 | 71 |
| 2. Technical/Agricultural Assistance | 60.56% 43 | 39.44% 28 | 71 |
| 3. Marketing/Sales Assistance | 69.01% 49 | 30.99% 22 | 71 |
| 4. Certification Assistance | 56.34% 40 | 43.66% 31 | 71 |
| 5. Regulations Assistance | 60.56% 43 | 39.44% 28 | 71 |

The Feasibility Study Farmer Survey Summary of Responses

Farmer Survey

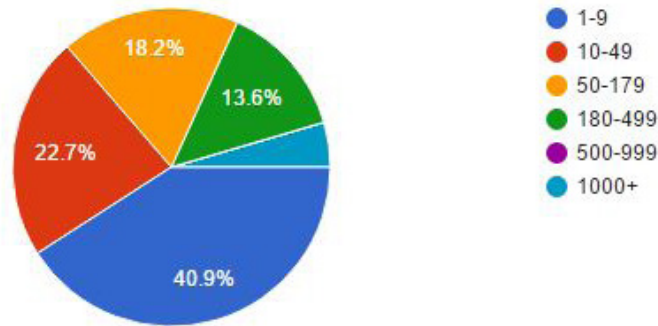
We are working to strengthen the local food system in Spartanburg County and the counties surrounding Spartanburg and would like to know more about our farmers and what you need in order to grow our local food system and supply local markets. The survey should take about 10-15 minutes to complete. If you have questions or comments about the survey, please email Alissa Duncan alissa.r.duncan@gmail.com.

NEXT

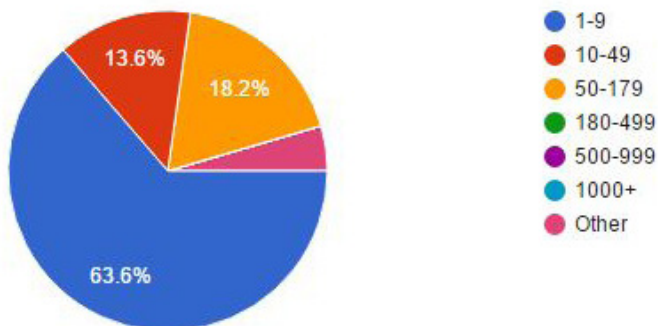

16% complete

Never submit passwords through Google Forms.

How many acres is your farm? (22 responses)



How many acres of your farm are producing for human consumption? (22 responses)

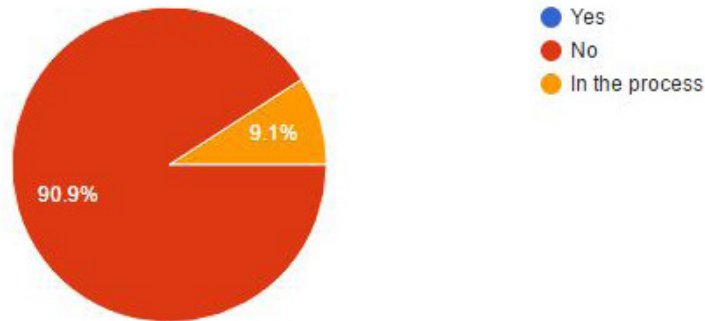


Please give estimated annual production by weight, volume, gross sales, or units (bushels or gallons, for example) for all crops listed above.

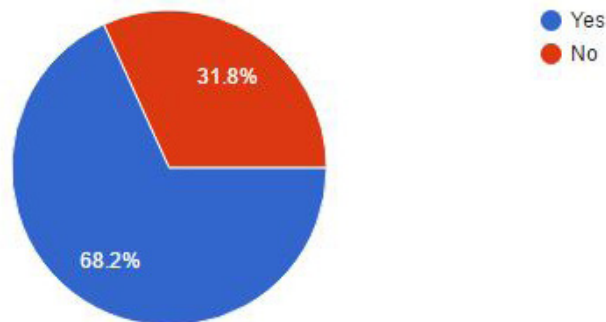
(13 responses)

- \$50,000 in gross sales
- 8 to 15 head of cattle per year for meat
- 200,000 in gross sales
- blueberries 500 gal blackberries 1000 gal grapes 15000 lbs
- ~39,000 pounds
- just getting started on veg. Moving hens across a few acres & producing 6 dozen cartons a day.
- 40,000 heads/bunches
- 300 meat chickens, 500 dozen eggs, 12 half hog shares
- \$7,000
- 5,000
- no idea
- \$100000
- We have a small yield that we sell to the public

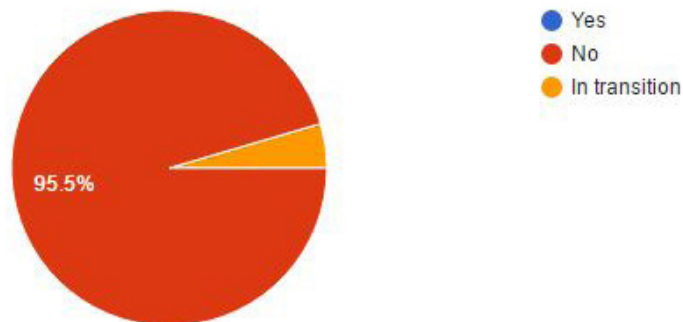
Is your farm GAP Certified? (22 responses)



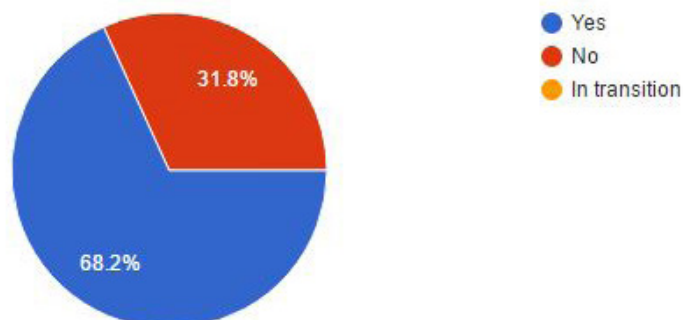
If no, are you interested in obtaining GAP Certification? (22 responses)



Do you grow Certified Organic? (22 responses)

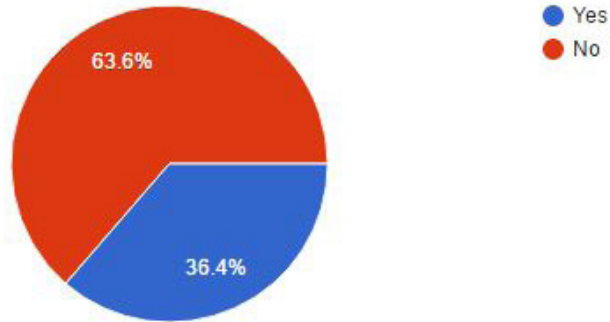


Do you grow organically? (not Certified) (22 responses)

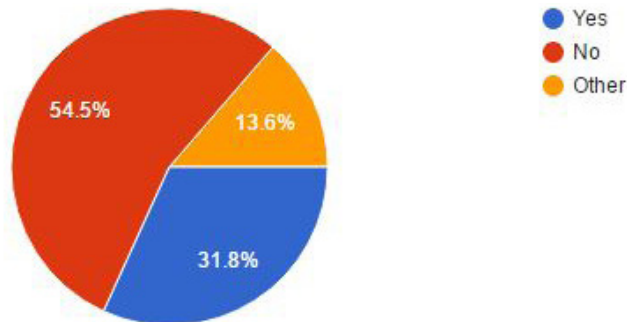


Equipment & Facilities

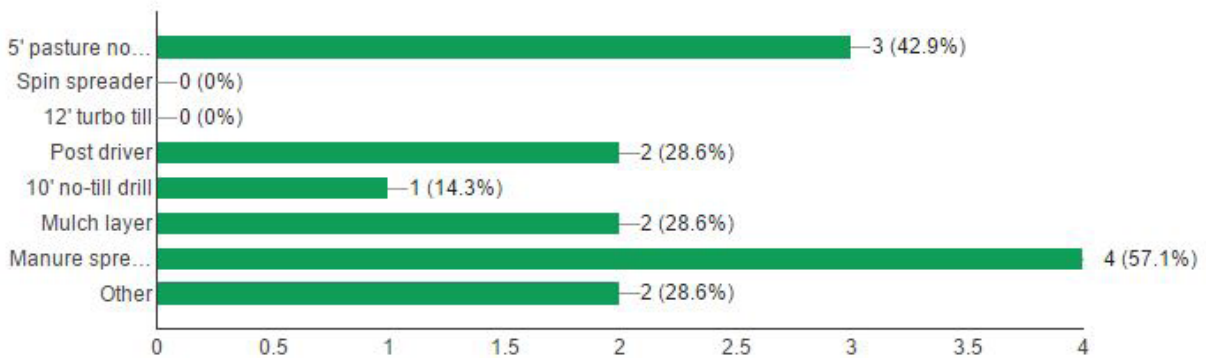
Do you have access to all of the farm equipment you need? (22 responses)



Would you rent or borrow farm equipment from the Boiling Springs, SC area? (22 responses)



If yes, what kind of equipment would you rent or borrow? (7 responses)



5' pasture no-till overseeder- 3 (42.9%)

Spin spreader- 0

12' turbo till- 0

Post driver- 2 (28.6%)

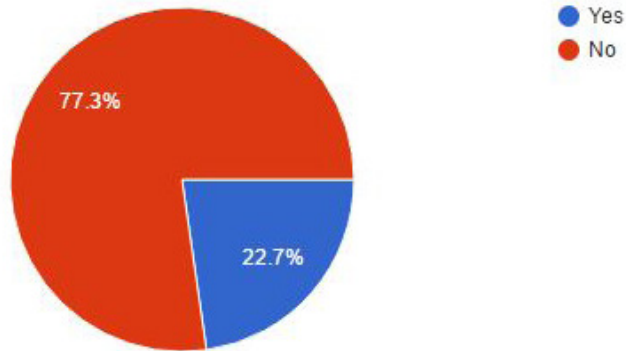
10' no-till drill- 1 (14.3%)

Mulch layer- 2 (28.6%)

Manure spreader- 4 (57.1%)

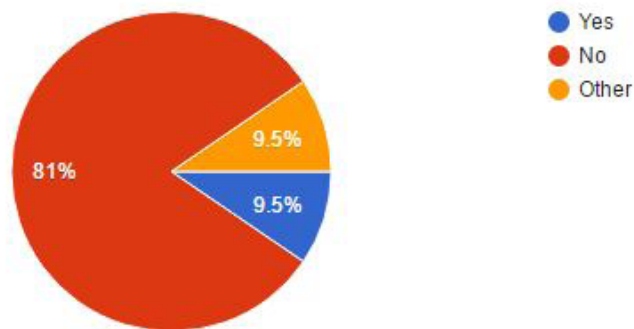
Other- 2 (28.6%)

Do you have access to a commercial kitchen? (22 responses)

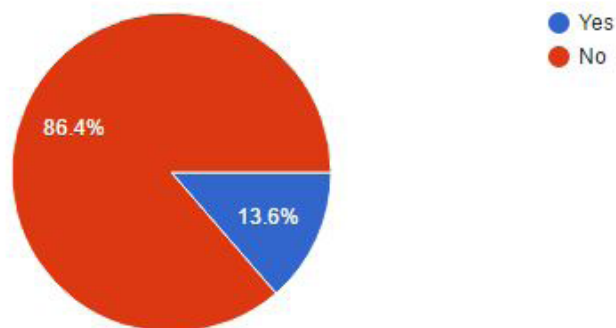


Would you rent commercial kitchen space in the Boiling Springs, SC area to create value-added products?

(21 responses)



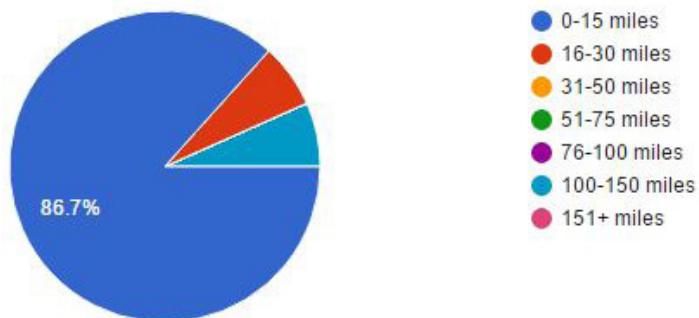
Do you need a produce processing facility? (22 responses)



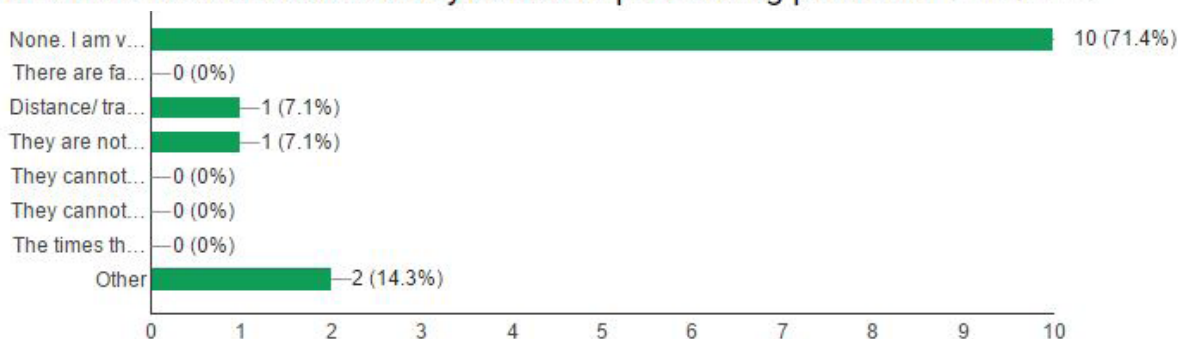
Where do you currently process your produce? (17 responses)

| |
|--------------------------------------------------------------------------------------------|
| on farm |
| on farm |
| on farm |
| n/a |
| Trackside Diner |
| Greer and Kingstree |
| Working on RVC for a dehydrated product |
| No |
| On the farm |
| On site |
| not yet - aware that we may need to in the next year |
| Home |
| NA |
| On farm or commercial kitchen |
| in home |
| on-site |
| in my own kitcheon, will need a room for honey subtraction of frames i am a new bee keeper |

How far away is the produce processing facility you use? (15 responses)



What are the current barriers you find to processing produce? (14 responses)



What are the current barriers you find to processing produce? (14 responses)

None. I am happy with the facility I use- 10 (71.4%)

There are facilities nearby, but I prefer not to use them- 0

Distance/ travel time- 1 (7.1%)

They are not consistent- 1 (7.1%)

They cannot handle my volume- 0

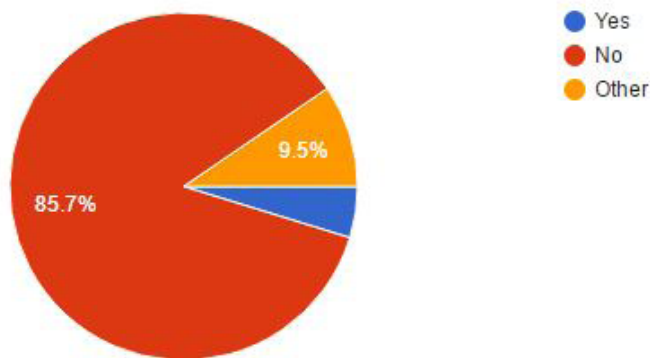
They cannot handle my organic products- 0

The times they are open are not convenient- 0

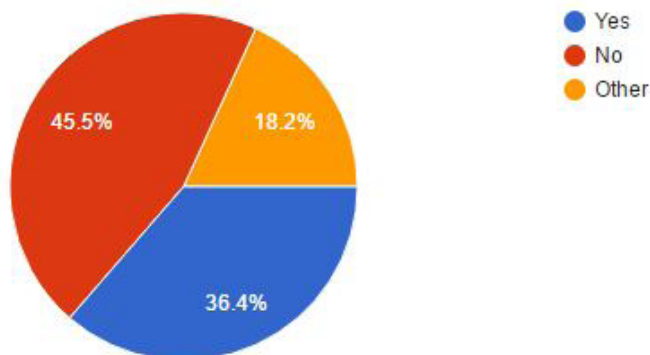
Other- 2 (14.3%)

Would you rent a produce processing facility in the Boiling Springs, SC area?

(21 responses)



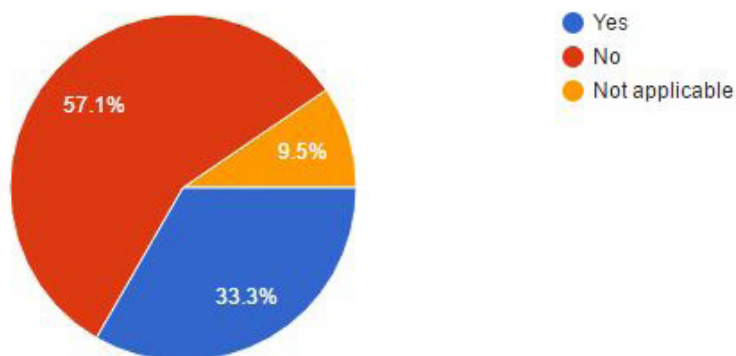
Would you sell your produce to a processor? (22 responses)



If you wouldn't sell to a processor, why not? (7 responses)

- n/a
- I have all the direct marketing options I need
- They would not pay enough
- The tomatoes grown do not require processing
- Lack of volume
- we sell to local customers
- i would if i had plenty

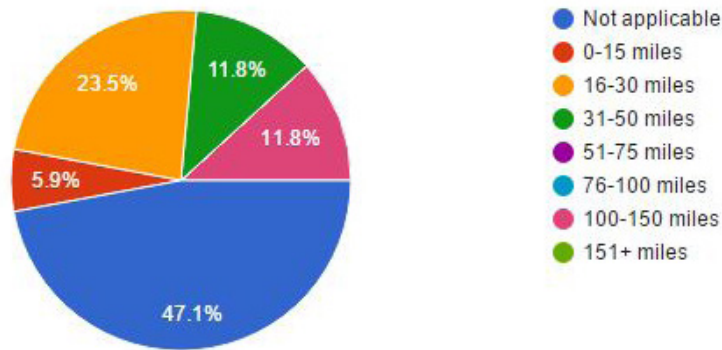
Do you need a meat processing facility? (21 responses)



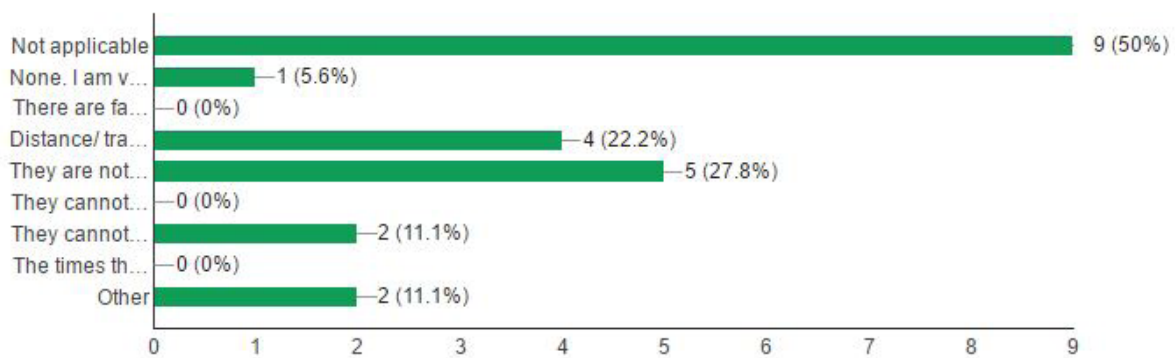
Where do you currently process your meat? (12 responses)

- Wells Jenkins Wells
- Wells Jenkins Wells
- Wells Jenkins Wells
- Williamsburg Packing Co.
- Greer and Kingstree
- NA
- Williamsburg
- In the past i used a local one in York, SC
- none - not sure we will go into proteins
- chickens on farm, pigs at Blalock
- Locally- Wells Jenkins or Pinnacle
- on farm

How far away is the meat processing facility you use? (17 responses)



What are the current barriers you find to processing meat? (18 responses)



Not applicable- 9 (50%)

None. I am very happy with the facility I use- 1 (5.6%)

There are facilities nearby, but I prefer not to use them- 0

Distance/ travel time- 4 (22.2%)

They are not consistent- 5 (27.8%)

They cannot handle my volume- 0

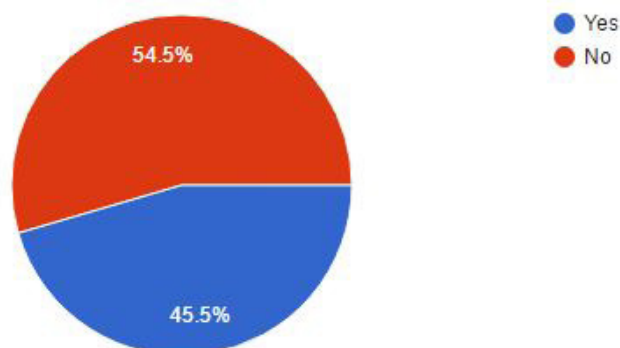
They cannot handle my organic products- 2 (11.1%)

The times they are open are not convenient- 0

Other- 2 (11.1%)

Market

Are you interested in selling your products to wholesale markets? (22 responses)

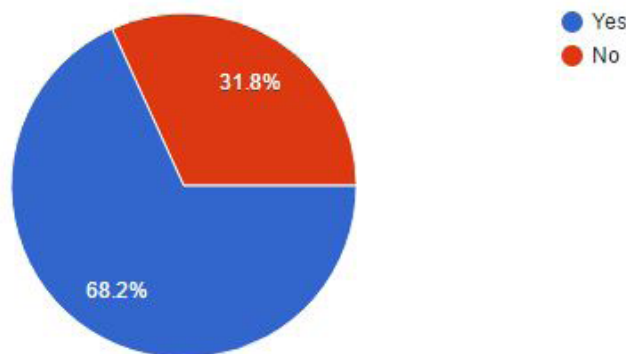


If no, why not? (10 responses)

- I prefer to work directly with my customers
- I direct market our products to individuals and restaurants
- Not enough money for the hard work
- Pricing insufficient
- we have enough demand selling directly to end consumer
- Wholesale pricing is too low
- do not produce enough
- selling retail
- We sell to locals our volume is not big enough
- i will, wen i am able to, have to work full time to have medical incurance

Are you interested in selling your products to a facility that would market and distribute for you?

(22 responses)

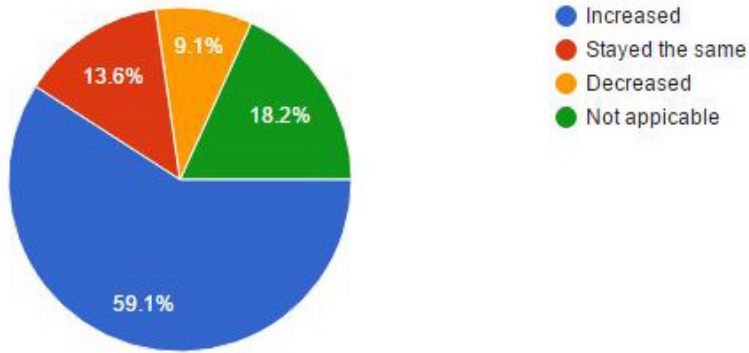


If you are not interested in selling to a facility that would market and distribute for you, why not?

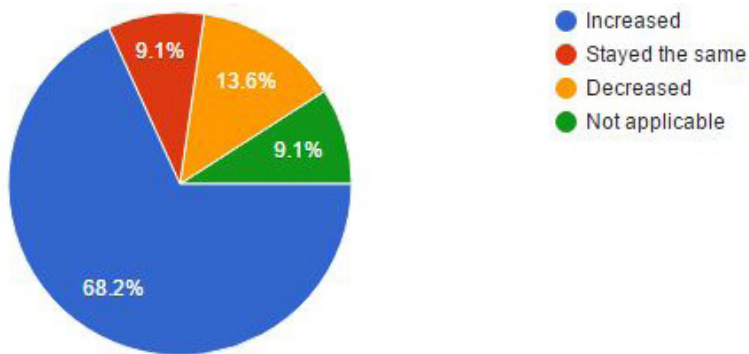
(3 responses)

- I have been involved in this before. The farmer nets less, the facility is slow to pay.
- I can obtain Better pricing direct to consumer
- if i have plenty

For your operation over the last 5 years, has your profit (22 responses)



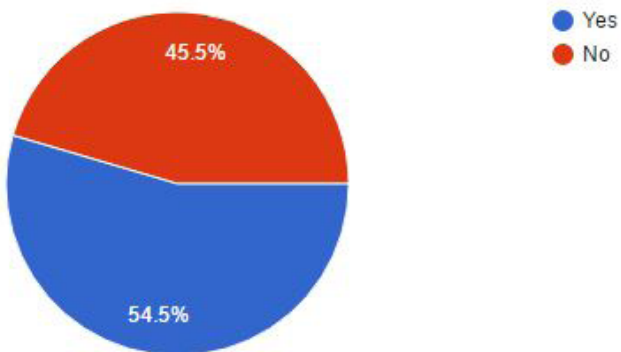
For your operation over the last 5 years, has your production (22 responses)



Programs

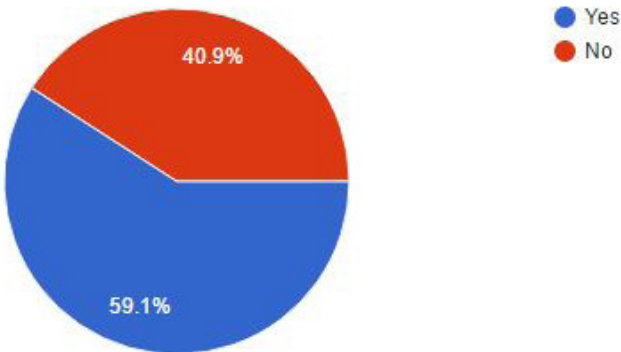
Do you have a plan for your farm once you no longer wish to farm?

(22 responses)



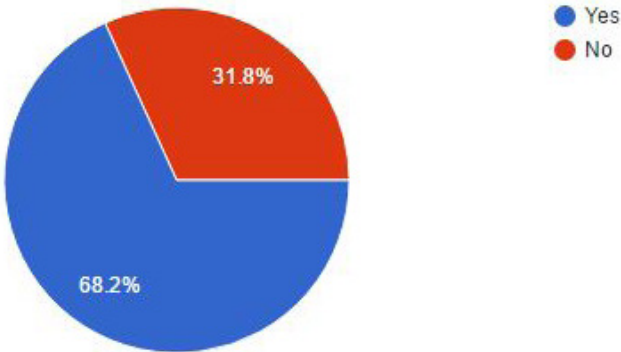
Are you interested in being connected to other farmers through a mentor/ beginning farmer program?

(22 responses)



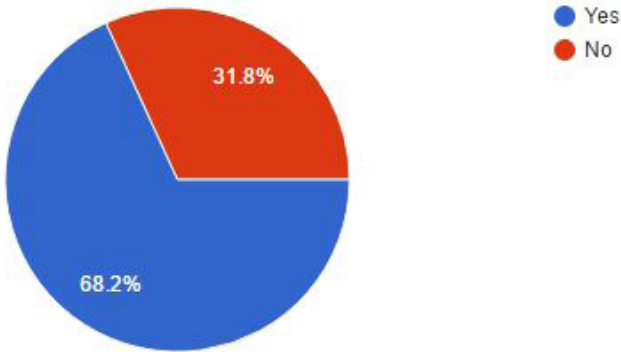
Are you interested in classes to learn more about different farming practices?

(22 responses)



Are you interested in taking classes to learn more about marketing your products?

(22 responses)



What other kinds of farming-related classes would you attend? (12 responses)

| |
|-------------------------------------------------------------------------------------------|
| Transition to Organic Certified; Marketing |
| Transitioning in to retiring and passing the farm as an operation to the next generation. |
| Organic insect and disease controls, How to deal with disease on small fruits |
| all aspects |
| Wool productions |
| Hydraponic and aquaponic growing |
| Soilless controlled environment agriculture |
| organic market gardening. marketing-wholesale & retail. how to ramp up egg sales. |
| Cover cropping, sustainable farming |
| Holistic Farm integration |
| Networking |
| organic gardening, hydroponic/ airoponic/ aquaponic gardening record keeping |

SCHOOL DISTRICT SUPERINTENDENT SUMMARY OF SURVEY RESULTS

Surveys were sent to the Superintendents of all seven Spartanburg County school districts. The surveys were designed to determine the role of the schools in the local food systems and to gauge the Superintendents' interest in a farm-to-school program. All seven of the superintendents responded.

Key Findings

- Five of the seven school districts contract with Chartwells / Compass to provide food service
- 85.7% of the superintendents reported that local foods are served in their schools. The rest didn't know
- All superintendents who are unaware of the use of local foods in their schools are very interested in doing so
- 57.1% of the superintendents were interested in having agricultural education program teachers partner with local farmers to enhance their curriculum. No superintendent said they were not interested.
- 71.4 percent of the superintendents were familiar with the SC Farm-to-School Program
- 42.9% have implemented some kind of farm-to-school program
 - For those that have not, 40% were very interested in doing so.
- The superintendents consider the major benefits of a farm-to-school program are
 - Support the local farmers / economy (100%)
 - Provide fresh, nutritious school meals (85.7%)
 - Combat childhood obesity and related chronic disease (57.1%)

Superintendent Survey

We are working to strengthen the local food system in Spartanburg County and are interested in knowing how the schools fit in. We also wish to gauge your interest in a farm to school program. For the purposes of this survey, we consider "local" to be approximately 100 miles from your school district. However, if your provider is calling the food local and you are not sure exactly where it is from, please consider it local. We expect this survey to take around 10-15 minutes to complete. If you have questions or comments about the survey, please contact Alissa Duncan alissa.r.duncan@gmail.com.

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7 responses



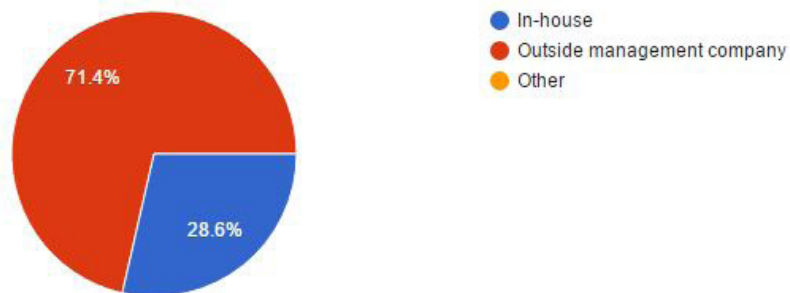
SUMMARY

INDIVIDUAL

Accepting responses

Is your food service done in-house or is it contracted out to a food service management company?

(7 responses)



If it is contracted out, who is your food service management company?

(5 responses)

Chartwells

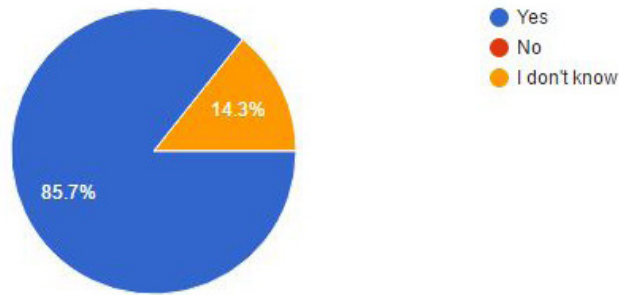
Chartwells

Chartwells

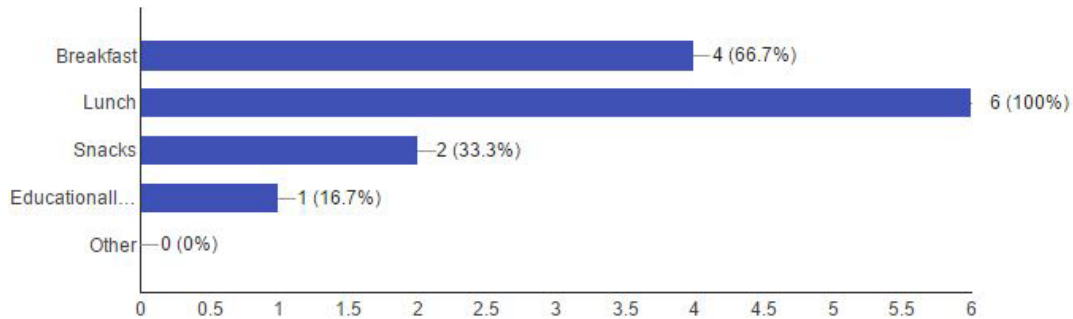
Chartwells

Chartwell's

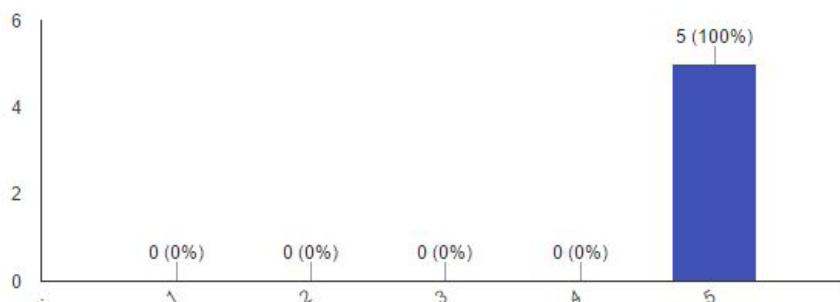
Are local foods currently served in your schools? (7 responses)



If you do use local food in your schools, in which programs do you use them? (6 responses)

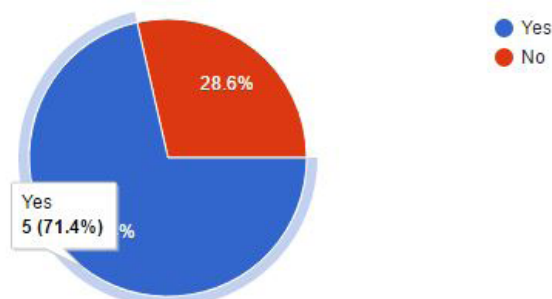


If you do not use local food in your schools, how interested are you in utilizing local food in your schools? (5 responses)



Agricultural Education

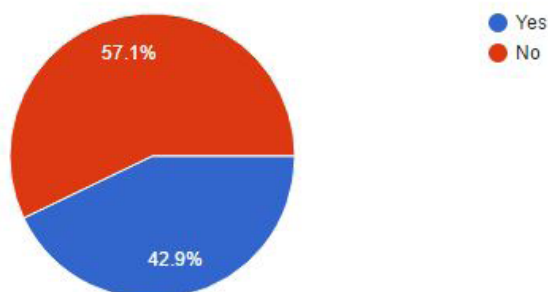
Do schools in your district offer agricultural education courses? (7 responses)



If yes, please list schools and titles of courses (5 responses)

| |
|------------------------------------------------------|
| Swofford Career Center, Horticulture |
| RD Anderson Vocational School - Agricultural Classes |
| ag science, horticulture, small animal, |
| Landrum Middle School and Landrum High School |
| Landrum High school and Landrum Middle School |

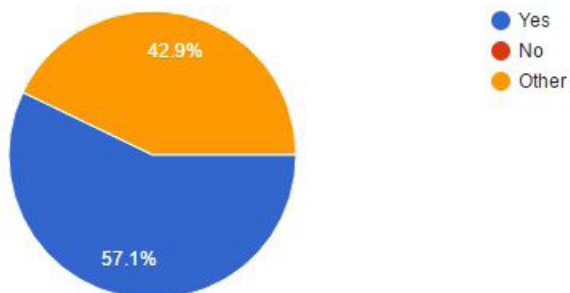
Do any of your schools have a Future Farmers of America or 4-H program?
(7 responses)



If yes, please list the school(s) and the program(s). (3 responses)

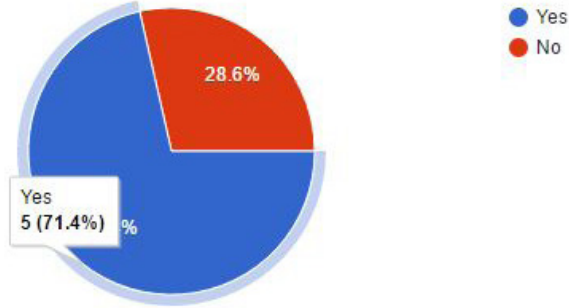
| |
|-----------------------------------------------------------|
| Swofford will be starting a FFA program this coming year. |
| RD Anderson Vocational School - Agricultural Classes |
| RD Anderson |

Would you be interested in having your agricultural education program teachers partner with local farmers to enhance their curriculum?
(7 responses)



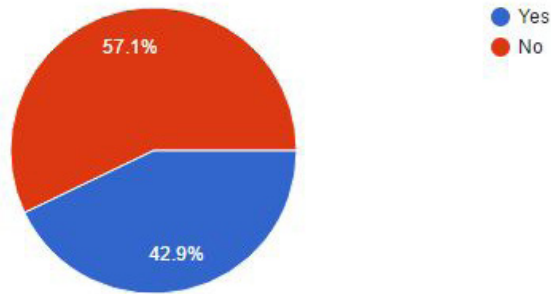
Farm to School Program

Are you familiar with the SC Farm to School programs? (7 responses)



Have you implemented a farm to school program(s) in your district (not necessarily an SCDA Farm to School program)?

(7 responses)

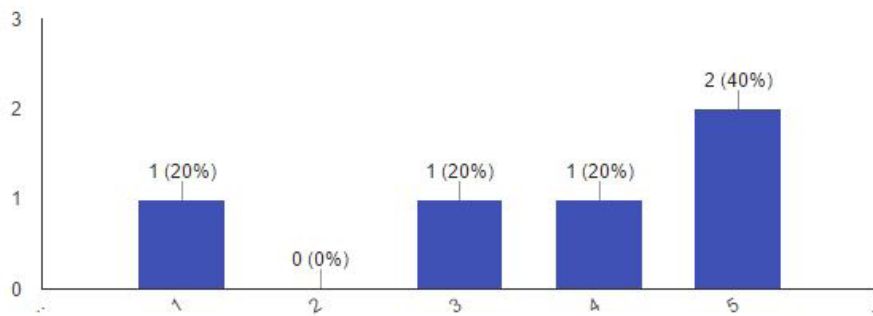


If yes, please list the programs and school(s) (1 response)

ag ed at RD Anderson, 3 4h programs, school gardens at multiple schools

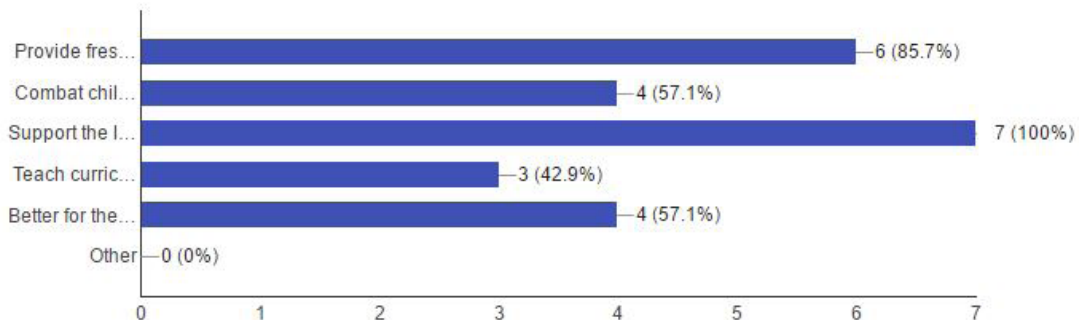
If you have not implemented a farm to school program in your district, how interested are you in doing so?

(5 responses)



What do you consider to be the major benefits of a farm to school program?

(7 responses)



- Provide fresh, nutritious school meals 6 (85.7%)
- Combat childhood obesity and related chronic diseases 4 (57.1%)
- Support the local farmers/ economy 7 (100%)
- Teach curriculum in a hands-on style 3 (42.9%)
- Better for the environment (not transporting long distances) 4 (51.7%)

Optional Information

Is there anything else you would like us to know that would help you to utilize local food?

(3 responses)

we are interested in local proteins and fruits and vegetables

N/A

none

AGRICULTURAL EDUCATOR SUMMARY OF SURVEY RESULTS

The seven Spartanburg County school districts superintendents were asked to distribute the Agricultural Educator Survey to the agriculture teachers in their school districts. We received three responses from among the school districts.

Key Findings

All responding teachers were interested in partnering with local farmers to enhance their curriculum. The subjects they were most interested in partnering with were:

- Gardening (100%)
- Sustainable agriculture (66.7%)
- Animal / livestock husbandry (66.7%)
- The educational / training services of a working farm they were most interested in were
- Hands on experience (100%)
- Farm tours (100%)
- Mentoring, FFA & 4H activities, Internships (66.7% each)

The Feasibility Study Agriculture Educators Survey Summary of Responses

Agricultural Educator Survey

We are working to strengthen the local food system in Spartanburg County and are interested in knowing how the schools fit in. We expect this survey to take around 5-10 minutes to complete. If you have questions or comments about the survey, please contact Alissa Duncan alissa.r.duncan@gmail.com.

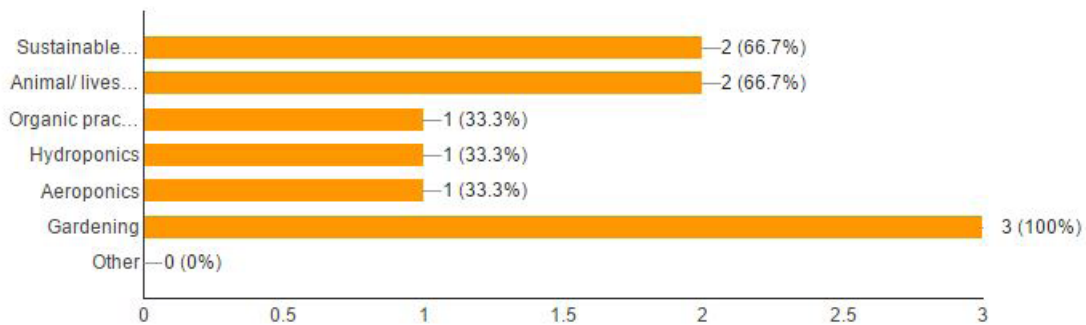
Are you interested in partnering with local farmers to enhance your curriculum?

(3 responses)



If yes, on what subjects would you be most interested in partnering with local farmers?

(3 responses)



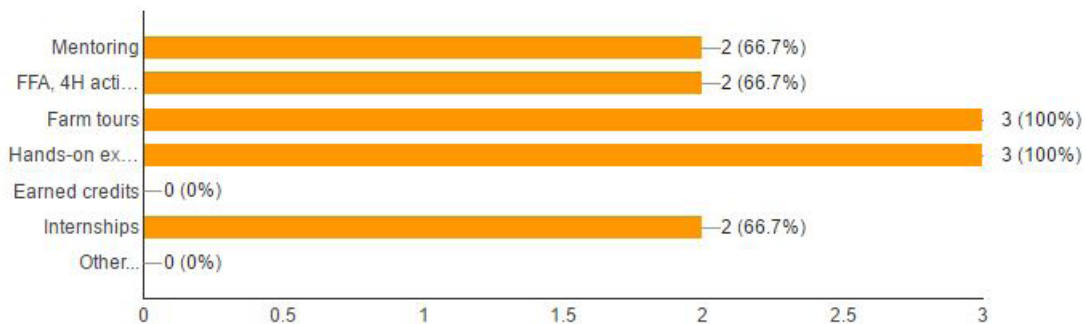
Sustainable agriculture-2 (66.7%)

Animal/ livestock husbandry- 2 (66.7%)

Organic practices- 1 (33.3%)

What services of an educational and training working farm could you and/or your students utilize?

(3 responses)



FFA, 4H activities- 2 (66.7%)

Hands-on experience- 3 (100%)

What agricultural-related classes do you currently teach? (3 responses)

Horticulture

Agriculture Science and Technology, Agricultural and Biosystems Science, Small Animal Care

Agricultural Science and Technology, Wildlife Management

What agricultural-related programs do you lead? (3 responses)

FFA

We have just started implementing 4-H and FFA here at our school

N/A

SCHOOL DISTRICT FOOD SERVICE DIRECTOR SURVEY SUMMARY

All seven school district food service directors responded. In addition, we obtained a survey from the school district five official in charge of managing the food service contract.

Key findings:

- All of the food service directors report that local foods are served in the schools
 - Lunch - 100% of schools
 - Breakfast - 89.5% of schools
 - Snacks - 0%
 - Educational - 25%
- Major impediments to utilizing local foods
 - Price (62.5%)
 - Supply (50%)
 - Delivery (12.5%)
 - Procurement (12.5%)
- Food service directors identified the need for better marketing by the local food system

Food Service Director Survey

We are working to strengthen the local food system in Spartanburg County and are interested in knowing how the schools fit in. We also wish to gauge your interest in a farm to school program. For the purposes of this survey, we consider "local" to be approximately 100 miles from your school district. However, if your provider is calling the food local and you are not sure exactly where it is from, please consider it local. We expect this survey to take around 5-10 minutes to complete. If you have questions or comments about the survey, please contact Alissa Duncan alissa.r.duncan@gmail.com

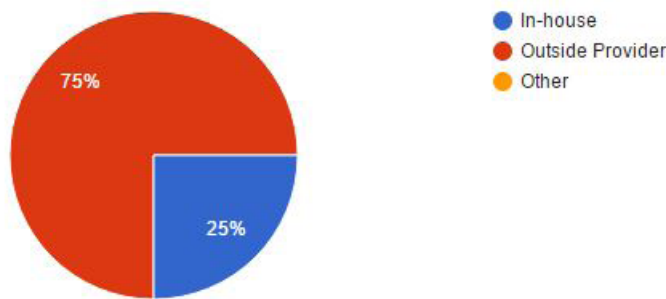
NEXT

33% complete

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Is your food service done in-house or is it contracted out to a food service management company?

(8 responses)

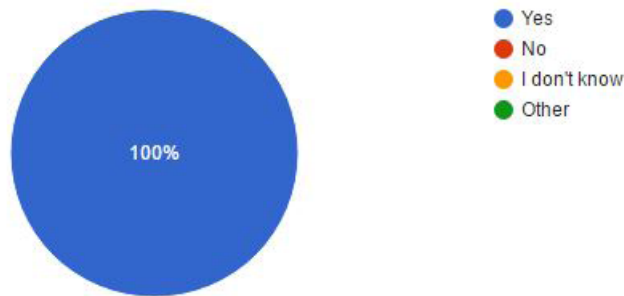


If it is contracted out, who is your food service management company?

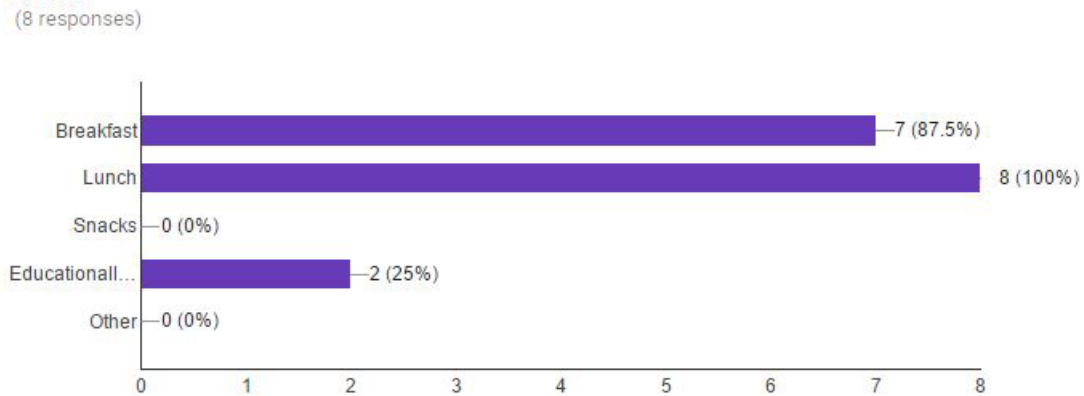
(6 responses)

- Chartwells
- Chartwells
- Chartwells
- Chartwells
- Chartwells Dining Services
- Chartwells K12

Are local foods currently served in your school? (8 responses)



If you do use local foods in your school, in which program(s) do you use them? (8 responses)



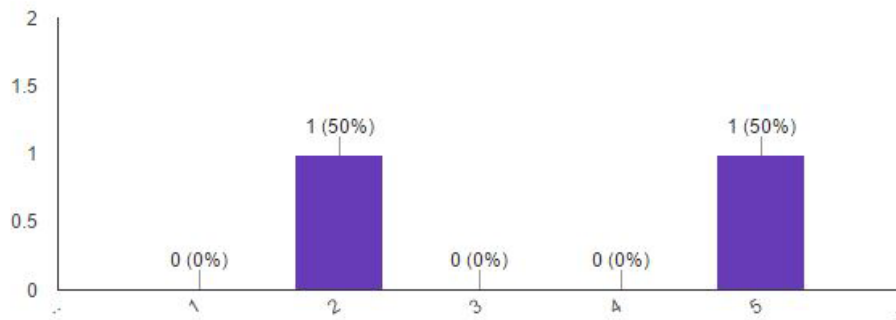
*The next-to-last option in "If you do use local foods in your school, in which programs do you use them?" is "Educationally in classes."

Please provide information on local food used: product(s), source, frequency served, other information (7 responses)

| |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| fruits and vegetables 3 times per week |
| Taylor Boys Produce |
| Spinach, apples, sweet potatoes, collard greens all used when in season |
| Purchase through Marvin's Produce using seasonally available, competitively priced products; apples sweet potatoes cabbage greens tomatoes watermelon peaches. |
| We use apples, cabbage, broccoli, greens, sweet potatoes, strawberries, watermelon, anything we can get our hands on at a decent price. We try to menu at least once a week a local produce item if not twice a week. Depends on the season and what is available. Our produce provider is Marvin's Produce out of Taylors, SC. Great partners at sourcing, prepping, and providing local foods at a reasonable price. |
| Local produce, apples, melons, strawberries, tomatoes, collards, squash. we have local produce at least 3 -4 times per month. |
| local served minimum of twice per week |

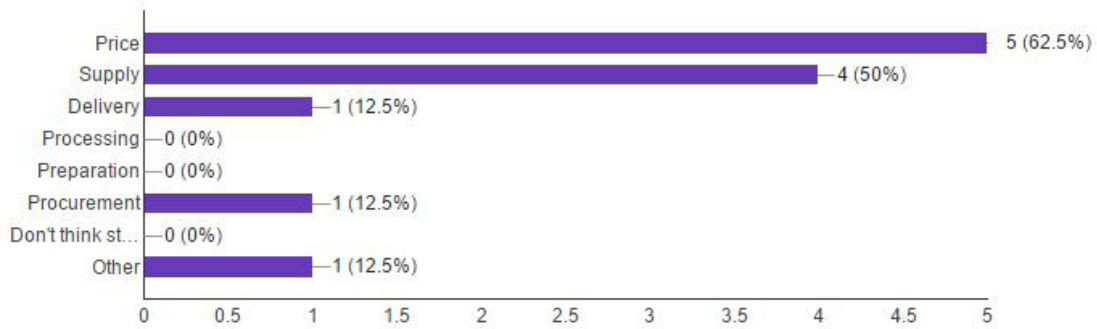
If you do not use local foods in your school, how interested are you in utilizing local foods in you school?

(2 responses)



What do you consider the major impediments to utilizing local foods in your school?

(8 responses)



*The final option on "What do you consider the major impediments to utilizing local foods in your school?" is "Don't think students would eat".

Optional Information

Is there anything else you would like us to know that would help grow the use of local food in our schools?

(5 responses)

Marketing materials showing the local farms or the names where they come from, so the students may come familiar with the farm/supplier

Not at this time

Success will be placement of product with distributors and informing end users about the availability of local

If we had more marketing material I think that would go a long way. Either in advertising that we are trying to make a difference in our community and/or trying to serve the healthiest foods possible.

No we strive to use local grown as much as we possibly can.