



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

6-14-2017

## The Challenges of Developing a Successful Cooperative through an Integrated Resource Approach: Small Farmer-Tuskegee University-Walmart Project

Gertrude Wall

*Tuskegee University*, gjwall@mytu.tuskegee.edu

Walter A. Hill

*Tuskegee University*, hillwa@mytu.tuskegee.edu

Tasha M. Hargrove

*Tuskegee University*, tmhargrove@mytu.tuskegee.edu

Barrett Vaughan

*Tuskegee University*, btvaughan@mytu.tuskegee.edu

Franklin Quarcoo

*Tuskegee University*, quarcoof@mytu.tuskegee.edu

~~See next page for additional authors.~~  
Follow this and additional works at: <http://tuspubs.tuskegee.edu/pawj>

 Part of the [Agricultural Economics Commons](#)

---

### Recommended Citation

Wall, Gertrude; Hill, Walter A.; Hargrove, Tasha M.; Vaughan, Barrett; Quarcoo, Franklin; and Robinson, Miles D. (2017) "The Challenges of Developing a Successful Cooperative through an Integrated Resource Approach: Small Farmer-Tuskegee University-Walmart Project," *Professional Agricultural Workers Journal*: Vol. 4: No. 2, 3.

Available at: <http://tuspubs.tuskegee.edu/pawj/vol4/iss2/3>

This Article is brought to you for free and open access by Tuskegee Scholarly Publications. It has been accepted for inclusion in Professional Agricultural Workers Journal by an authorized editor of Tuskegee Scholarly Publications. For more information, please contact [craig@mytu.tuskegee.edu](mailto:craig@mytu.tuskegee.edu).

---

# The Challenges of Developing a Successful Cooperative through an Integrated Resource Approach: Small Farmer-Tuskegee University-Walmart Project

## **Authors**

Gertrude Wall, Walter A. Hill, Tasha M. Hargrove, Barrett Vaughan, Franklin Quarcoo, and Miles D. Robinson

# **THE CHALLENGES OF DEVELOPING A SUCCESSFUL COOPERATIVE THROUGH AN INTEGRATED RESOURCE APPROACH: SMALL FARMER-TUSKEGEE UNIVERSITY- WALMART PROJECT**

**\*Gertrude Wall<sup>1</sup>, Walter A. Hill<sup>1</sup>, Tasha M. Hargrove<sup>1</sup>, Barrett Vaughan<sup>1</sup>, Franklin Quarcoo<sup>1</sup>, and Miles D. Robinson<sup>1</sup>**

**<sup>1</sup>Tuskegee University, Tuskegee, AL**

**\*Email of lead author: gjwall@mytu.tuskegee.edu**

## **Abstract**

This paper shares the challenges that small, socially disadvantaged Alabama vegetable and fruit producers in Alabama faced and overcame to secure their USDA Produce Good Agricultural Practices (GAPs) food safety certification. The commercial buyers, collaborating with the Small Farmers Agricultural Cooperative (SFAC) producers, required the producers to be certified. This certification was based on the regulated security standards for food safety, the Harmonized Food Safety Standards with the Global Addendum (Global Markets Primary Production Assessments). This venture entailed the integrated resource approach, which comprised experts from Tuskegee University (Extension and Research staff) working closely with SFAC producers. Additional support and experiential guidance was provided by other collaborating partners: Walmart, Lipman Produce, WP Rawls, Pura Vida, C.H. Robinson, Federal and State Auditors, and the USDA (Strike Force Initiative). The collaborative efforts led to the producers successfully obtaining their GAP certification and fulfilling their contractual agreement obligations, despite the unexpected challenges.

**Keywords:** Socially Disadvantaged Farmers, GAP Certification, Integrated Resource Approach

## **Introduction**

The USDA Strike Force Initiative (SFI) (2011) addresses the disparities that African American farmers face when attempting to obtain services offered by three USDA agencies, Natural Resources Conservation Service (NRCS), Farm Service Agency (FSA), and Rural Development (RD). Through SFI, partnering organizations, including Tuskegee University, worked hard to ensure that all socially disadvantaged farmers (SDFs) had access to the programs designed to assist farmers in their farming efforts. Thus, the SFI led to numerous conversations between Tuskegee University and Walmart. For the first time in history, Walmart had an interest in pursuing a business relationship with an 1890 Institution and partnering with its organizational affiliates.

From 2010-2012, Tuskegee University worked diligently with small African American farmers in Alabama to secure commercial contracts with Walmart to sell their fresh produce through C.H. Robinson company, which served as the third-party entity for Walmart (Robinson et al., 2014). The initial challenges were twofold: first, establishing a successful cooperative that would strengthen small farmer collaborations, known as the Small Farmers Agricultural Cooperative [SFAC]), and second, the farmers' ability to increase the acreage under production for the commercial market. C.H. Robinson served as the umbrella for Cooperative farmers in the first two years of test shipments (Robinson et al., 2014). This union appeared to be working out for all parties involved. However, other unforeseen issues developed when it was time to fulfill the shipping agreements for greens in the fall of 2012.

In the fall of 2012, C.H. Robinson representatives required SFAC members to be GAP certified; that is, have Good Agricultural Practices food safety certification to sell their greens grown for the commercial market. Only a select few of the members of the Tuskegee University Resource Team had in-depth knowledge of the complete GAP certification process. Auditing representatives of C.H. Robinson assumed the responsibility of teaching SFAC growers the guidelines and how to obtain their GAP certification, with the collaboration of Tuskegee University. Only two farmers received their GAP certification for the production of greens in 2012. The extensive amount of work that was required to develop a Food Safety Plan proved to be a challenge for SFAC members.

By 2013, the SFAC and Tuskegee University contractual agreements were shared by three separate third party managers of Walmart (C.H. Robinson, Pura Vida, and W.P. Rawls). At the same time, additional resources were needed from Tuskegee University to work with the SFAC members to assist with food safety plans, integrated pest management (IPM), and irrigation issues that had been identified from the previous years' test shipments. Extension Agents were recruited to work with Research teams to assist each farmer in developing a food safety plan and became food safety certified. Other Agents assisted with the grading of produce at the processing facilities, and the loading of produce onto the semi-trucks transporting produce to the Walmart Distribution Center, Brundidge, Alabama. SFAC members had a challenge meeting all contractual shipping amounts, but they were determined to ship safe produce grown on their farms. The ability to ship the contractual amount of produce became an issue, because no one could predict Alabama's' weather conditions, or the impact it would have on limited resource vegetable growers. The consistency of shipments, grading, transportation, and so many other factors became prevalent issues as the window of opportunity opened.

Each year, the Tuskegee University team worked to help SFAC members overcome the adversities of previous years. As time went on, the farmers became more knowledgeable about the requirements of the Food Safety Plan; learning how to grade their produce, and becoming more accurate with crop production. Resource team members were learning how to be more effective in relaying information to the farmers through collaborative training and farm visits. With support of funding from the Alabama legislature, a processing facility had been purchased in Selma, Dallas County, as the central drop-off point for farmers. The Tuskegee University team believed we were making progress; we had more achievements than defeats. New and beginning farmers were inquiring about the commercial market initiative with Walmart. New growers were interested in joining the cooperative (SFAC) each year not fully realizing the amount of time, effort, and money required to produce crops for commercial markets, or the GAP requirements needed to sell their produce grown.

This paper is an attempt to capture the efforts of the Project. It used an integrated resource approach that collected and combined resources to assist a group of resourceful hardworking farmers with minimal capital access. The paper is divided into five main sections, namely, developmental stage, team efforts, farmers' cooperative, harvesting, and partners. The conclusion discusses the positive and negative impacts that SFAC members made over the course of five years.

### **Developmental Stage**

Tuskegee University works with SDFs to improve their quality of life and farming capabilities. Therefore, the opportunity to assist in the development of a SDF cooperative and partner with a commercial marketer was a welcoming opportunity for the Team. In 2012, the opportunity began to take shape in the form of a Small Farmers Agricultural Cooperative (SFAC). Members were recruited from farmer organizations throughout the service area, including the “Tri-State Forum Organization in Dothan, the Selma-Dallas County Farmers Organization, Macon County Farmers Organization, Autauga-Chilton County Farmers Organization, and the Green County Farmers Organization” (Robinson et al., 2014). The communication between University and commercial buyers help shaped the direction in which the SFAC was structured. Most farmers’ cooperatives are based on economic growth; “they are owned, controlled by, and intended to benefit the people they serve – the members – not outside investors” (Lane, 2012). With that knowledge, it became clear that if this group of SDFs was to meet its goal, Tuskegee University would initially have to support them via an integrated team from its Research and Extension staff.

SFAC was incorporated as a 501 (c) (3) organization in 2012; it was created as a non-profit organization mainly because of the lack of resources available to create a for-profit cooperative. The status itself was a stretch for limited resource farmers operating with little or no capital. It allowed the partners the ability to lobby on their own behalf for the resources needed to train, organize, and register the group as a functional organization. The University agreed to handle all the new organization’s managerial responsibilities until the SFAC board members were ready to take control. One appointed University staff member handled the major logistics of the contractual agreement between Walmart, C.H. Robinson, and the farmers. Other team members dealt with food safety training for GAP Certification and worked with the farmers on their irrigation systems. It became a 24-hour a day task, but every team member was committed to seeing this through to the end.

#### **Team Efforts: Resource Team, Small Farmers Agricultural Cooperative, and Partners**

By the spring of 2013, some members of the Tuskegee University Resource Team were busy conducting the food safety training and creating food safety plans. Other resource team members were working on irrigation systems and supplies, ordering watermelon transplants for the farmers, acquiring bees for pollination, delivering transplant shipments, and monitoring the young plants for the production season. Resource Team members were assigned to work with farmers in different regions of the state to address problems with crops on the ground in a timely manner. Monday morning conference calls were established for farmers to discuss any concerns and get updates from Research-Extension Specialists on current market conditions, crops maturity dates, shipping dates, amount of produce needed to fill orders, which farms’ produce will be ready by the established shipping date, and for the Research-Extension Specialists to get updates from the farmers on all crops maturity dates and expected harvesting dates. There had to be a continuous line of communication among farmers and Resource Team members for this initiative to work.

The Team knew each day would be a challenge based on the rainy weather conditions that spring. The rains continued into the summer with heavy downpours of three inches or more. The conditions for airborne fungus to attack watermelon crops were ideal. “Anthracnose is caused by a fungus that attacks watermelon and other cucurbits during warm, wet growing seasons”, and

the Tuskegee University's IPM Specialist feared that it might have already attacked some of the earlier melons planted (Sikora, 2011). In fact, SFAC members were busy preparing their land for planting by March of that year. Many of these farmers had to plow in between rain showers forcing them to leave equipment in the fields. After the downpours of rain, farmers had to wait days to return to the fields trying to finish plowing or planting their watermelons and purple hull peas.

These crops were to be ready for harvesting and shipping by mid-June and the first of July through C.H. Robinson and Pura Vida. The collard greens were to be shipped the beginning of November 2013 through W.P. Rawls, another third-party manager for Walmart. One local processing company in Shorter, Alabama, had agreed to work with the cooperative members, and the University to process the peas and greens. The watermelons were processed at facilities in Millbrook and Selma, Alabama. Each processing facility had to be audited based on the USDA Produce Good Agricultural Practices (GAPs) standards, the Harmonized Food Safety Standards with the Global Addendum (Global Markets Primary Production Assessments: GMPPA). Audits of this nature had never been completed by any member of the University's Resource Team. With the assistance of the Walmart associates and the information from Cornell University, the Tuskegee Resource Team had three of its members trained in the auditing process. This group comprised of one Research Faculty, one Farm Specialist, and one Extension Educator. This sub-team, the Auditing Team, got 12 farm operations certified in 2013.

### **Farmers' Cooperative**

As the planting season progressed, farmers started to see the results of a rainy, wet growing season in their fields and on their melon crops. Excessive amounts of rain flooded melon fields. First-time farmers absorbed the greatest loss that year. Their 150-acre fields had to be drained to prevent the melons from drowning in pools of rain water. However, the excessive amount of water that covered the fruit created more issues with insects and diseases. Alabama is known for its commodity crops, such as cotton, corn, and soybeans. Vegetable crops are not the main source of farm income for the state. The state, however, gets a moderate stream of income from melons, sweet corn, sweet potatoes, and tomatoes (USDA NASS, 2015). Tuskegee University's vision to help expand the fresh vegetable market to local growers ushered in the possibility of new opportunities for SDFs, but not without major sacrifices.

Each farmer dealt with key issues with his or her soil. Most of them were dealing with either heavy clay-based soils or sandy loam soils. Heavy clay-based soils tended to become saturated and hold water longer; whereas, sandy loam soils tended to allow the water to drain more freely. "The black land Prairie area of central and western Alabama is known as the "Black Belt" because of the dark surface colors of many of the soils. These soils were derived from alkaline, Selma chalk, or acidic marine clays. They are acid and are somewhat poorly drained. They are locally known as "flatwoods" or "post oak clays." These clay-based soils contain a high percentage of smectitic clays, and they shrink and crack when dry and swell when wet. Coastal Plain areas around Dothan, Ariton, and Geneva soils are very extensive in the eastern part of the Lower Coastal Plains. They have a loamy subsoil and a sandy loam or loamy surface layer" (USDA NRCS, 2008). Some farms had both types of soils, clay-based that cracked once it dried, and the sandy loam soil, that needed to be irrigated for crop production.

Climatic weather conditions affected the most experienced farmers, who were left waiting for the land to dry out enough for them to continue breaking or planting their crops. Even though the farmers had followed the recommendations of the IPM scientist to use specific fungicides to spray their melon crops, some were just too late to save the first crops. In 2013, many of the farmers lost most of their earlier watermelon crop, but were able to save most of the second crop. Cultivated fields not only faced challenges from excessive amounts of rain, but also from insects, deer's, crows, wild hogs, any coyotes that preyed on the fields that were not protected by hot wire. Because of the aforementioned challenges, the first crops were severely affected.

Pea growers, in 2013, also faced their share of problems with the weather. Sporadic thunderstorms created havoc in their fields. The farmers who planted early crops were busy fighting to keep the grass from overtaking their fields, and the late planters were fighting to get their crops in the ground in-between rain showers. Several farmers who planted early lost their first crops and had to replant. The farmers' latter crops of peas yielded at a high production rate which helped them recoup some of their earlier losses.

The Auditing Team began farm audits in June of 2013. The first farm audit did not meet all the GAP requirements and resulted in a list of corrections needed. The year 2012, was the first time members of the Resource Team had to prepare for an audit. However, that was not the reason the farmer did not pass. Members of the Auditing Team were informed in the middle of the audit that the farmers had been placed into a high-risk category based on the produce being sold, and that the buyers (Managers of Walmart) were requiring that SFAC members had to pass the Global Addendum section of the audit to qualify as certified producers. As stated before, the farmers had to satisfy the requirements of GAPs, and the Auditing Team had to come up with the right approach to satisfy the requirements. The next audit was on July 12, 2013, on peas and watermelons. The farmer passed, but had a minor correction issue on the Global Addendum section. The third audit was conducted on July 30; the farmer passed without any correction issues. The Team finally knew what was expected for the Global portion of the audit. In 2013, twelve (12) SFAC farmers received their GAP Certifications, and three (3) processing facilities became GAP certified (Al Hooks' Produce Processing Facilities, Millbrook Processing Facility, and Tuskegee University Farm Processing Facility). After the State Auditors' inspection of the facility in Selma, the required up-upgrades were too numerous and the decision was made to move the watermelon processing to a site on the University's Farm.

### **Harvesting**

Each phase of the Walmart Initiative tested the fortitude of Tuskegee University Resource Team and the SFAC members. There was so much work that had to be timed precisely for all logistical components to work in unison. As the Team and farmers completed each required phase, other aspects had to be put in motion to keep the flow of work moving. Harvesting time was hectic on the farmers and the Resource Team. Specific packaging units had to be ordered according to speculations for example: Watermelon shipping containers had to be a triple wall product bins sized for a 40"x48" pallet with depths of 26 1/2" and 36" with lids. Peas were harvested in 5-gallon buckets in fields, then transferred to cooling stations before being placed into 25 lbs. bushel sacks (open mesh, breathable) for transportation to the processing facility. At the processing facility, peas were shelled, cleaned, and stored at a temperature between 45 to 50 degrees in cello bags before being shipped in reusable packing containers (RPCs) to the

distribution center in Brundidge, Alabama. The shelf life for fresh peas is only three to five days for freshness (English et al., 1999). In fact, SFAC members were busy preparing their fields for planting by March of that year.

Every item had to be ordered and in place before any produce could be graded. One team member had to stay on top of every aspect of this operation making sure that the processing facilities had enough supplies on hand to keep the produce moving, communicating with buyers, and arranging shipping dates for each farmer to deliver to the processor. As a result of the vast coverage area, a refrigerated truck was obtained (with assistance from USDA Rural Development) to help transport the purple hull peas from the field to the processing facility. Cooling units were obtained and placed area-wide to accommodate pea farmers in Central Alabama, West Alabama and in the Wire Grass during harvesting season. Some farmers chose to deliver their produce to the processing facility themselves; the Chilton, Barbour, and Geneva County farmers used the Cooperatives refrigerated truck.

A Chilton County farmer was the largest pea producer (in 2013), usually harvesting close to two hundred bushels a day. This farmer started the pea market each year, then Wire Grass pea farmers were supposed to enter the market second, and Dallas, Wilcox, and Marengo County farmers were supposed to enter the market third barring any unforeseen circumstances. However, being that Alabama weather could not be predicted, things went bad, and the plan was affected. There was too much rain, and this caused crop loss. The loss of the first crops of peas affected the planned planting cycle, with most of the first crops being declared a disaster crop. Farmers had to plant their second crops sometimes two weeks behind schedule because of weather conditions. The shipments of purple hull peas dropped for the small acreage farmers. Farmers in Wire Grass area lost over ten acres of peas that were never harvested because of the weather. The loss of the first crops and the replanting of second crops depleted the budgets of some of the farmers. In fact, what they were holding in reserve for hiring labor, they used for replanting. The additional cost of fertilizer, lime, soil tests, equipment, plants and seeds created a cash flow problem for paying the state pay rate of \$9.00 per hour for agricultural laborers (USD L BLS, 2015). Most SDFs negotiated farm labor rates down to \$7.00 per hour, limiting most farm laborers to five-hour workdays. This adjustment helped but still presented itself to be a financial burden for some farmers.

Watermelon producers had their share of problems fulfilling their contractual loads. Farmers for Autauga, Chilton, and Butler Counties usually start the shipping season and hold it from one to two month. The weather affected the weight and conditions of their crops. Several loads of melons were returned based on weight, shape, or disease. When these loads are returned, the farmers are responsible for the truck rate, which is an additional expense. New and Beginner Farmers were hardest hit with crop losses in 2013 and 2014. They were not aware of the state's weather patterns, or the diseases that could affect watermelons. One new member of SFAC planted forty acres of melons in 2014. Based on the original specifications from Walmart, he planted a variety of melons for breakfast size to twenty-eight lbs. range.

Based on the demands for audits that year, his audit was scheduled for late June. The state auditor sited two issues on this farm, and gave the farmer 48 hours to correct the issues and resubmit. The next day after the audit, a Tuskegee University resource person helped the farmer

correct the issues and faxed the corrected documents to the auditor. The state auditor was new to the field auditing process and did not realize that each corrected item was related to another item within the Food Safety Plan, so each day after that, he would send another item to be corrected related to the one the Resource Team member had just corrected. It finally took a USDA auditor to clear, and certify the new farmer whose melon shipments were held up over three weeks. The lapse in time between the audit and the GAP Certification allowed Anthracnose to attack the produce causing the farmer to lose over two-thirds of his crop. The farmer invested over \$45,000 of his own capital into producing a good crop (labor not included), and he only recouped a third of his investment for the truckloads of melons shipped. He lost considerable funds that year, because the buyers did not purchase the small melons from SFAC farmers. Several other farmers' melon loads were returned that year, because of the weight and Anthracnose signs on the fruit.

Collard green producers had their share of problems too between 2013 and 2014. As mentioned earlier, collards were to be shipped at the beginning of November for the holiday season that extended to New Years. In 2013, the majority of the SFAC members decided not ship their greens, because they feared the lack of sufficient produce. Many of them did not take into consideration that other members had planted over 400,000 plants for the market and were ready to ship. Most of the farmers who wanted to ship were small growers with no more than 25 acres of produce together. The loss of this crop was detrimental to these farmers. They had absorbed the loss of the peas, and now the greens. The only hope they had of surviving was the Disaster Payments from Farm Service Agency (NAP) Noninsured Crop Disaster Assistance Program (USDA FSA, 2015). These payments help the farmers regain some of their losses, but it is never enough.

In 2014, collard producers did ship produce to W.P. Rawls. The shipping season started two weeks late because of communication differences. The Wire Grass farmers were ready to hold the market for a month before the other growers' crops would be ready. The two weeks wait in November was disastrous for greens planted in summer. A frost hit the crops the week after shipping was to begin. Some produce was harvested from the Wire Grass Farmers, but not enough to make a difference. These farmers now had to wait until the second crop of greens were ready (a month later) to begin shipping. Collards were to be packaged in the field into RPCs, and then transported to the processing facility. Each head of greens weighs 6lbs, and six (6) heads went into each RPC. Instead of selling over 66,000 crates of collard greens, the Wire Grass farmers only sold about 250 crates. The remaining produce was sold to farm-to-school programs, farmers markets, and through personal sales. The additional produce was left in the fields and plowed under, or fed to the animals.

### **Partners**

The collaboration that Tuskegee University and the SFAC members have with Walmart and the third-party managers has been remarkable. Representatives from each company have spent time with Tuskegee University Resource Team members and SFAC members. The purpose of visiting farms and talking to farmers was to inform them of the best practices to follow and how to get the best results for their crops. For example, two USDA auditors came for a visit based on an invitation from a Tuskegee University Team leader. The auditors, accompanied by the Resource Team members, toured the farms. During the tour, the Tuskegee University Auditing Team took

the opportunity to ask the USDA auditors about certain issues that came up during the certification process that slowed down the process. At the time, the Team had at least two audits that were being prolonged based on requirements for the Global Addendum section of the auditing process. The information that the Team received from the USDA auditors helped the Team better assist the farmers and clarify the issues. The state auditors were also very helpful with the auditing process. When they could not answer a question, they gave a scenario from which one could deduce the answer.

Other USDA agencies, such as FSA, were crucial to Tuskegee University and SFAC members with information on available programs and loan process. Several SFAC farmers obtained loans with their assistance, and are engaged in other programs offered through their sister agencies, NRCS and RD. The partnerships were very rewarding for all involved in the transitioning from one phase of this initiative to the next. The newest partner joined the group in 2015; Lipman, another third-party manager, joined the ranks of companies that wanted to purchase produce from SFAC members. Lipman's Representatives met with SFAC farmers to consult with them on the varieties of squash to be grown on their farms. One variety the "Black Star," was Lipman's high yielding variety of summer zucchinis that grows well in hot, humid climates. Two SFAC farmers grew the Black Star variety of zucchinis on their farms located in the Wire Grass area. The crop grew well, but as the weather became hotter and drier in August the farmers noticed that the produce was not developing correctly. The squash was mature but the blooms were not detaching from the produce. Several samples from the growers' fields were sent to Tuskegee University Research Laboratory for close observation. The research scientist who examined the samples made a preliminary conclusion; a lack of sufficient pollination. The scientist scheduled an onsite farm visit to both farms to see the crops.

While conducting the farm visit, a representative from Lipman was contacted and pictures were sent to their office for further evaluation. The Tuskegee University Team wanted to know if Lipman had seen issues of this nature with their Black Star variety of zucchinis. The Lipman personnel indicated they had not encountered any problems with their variety of Black Star Zucchini. Their first observation was in line with the Tuskegee University scientist; that the plants had pollination issues. Tuskegee University researchers wanted samples of the seeds for a test planting, but all varieties of that squash seed had been sold. Without the seeds for plant testing, the researchers had to analyze the fresh produce samples. Once the produce was dissected, they discovered that the seeded heart of the squash was growing out of the end of the produce. That explained why the blooms were not detaching; it was protecting the seeds. All earlier produce harvested from this particular variety of zucchini squash was perfect produce, which met market specifications. However, Alabama's weather had turned very hot and dry; the Research Team concluded that the drastic change in the climate (excessive heat) caused this variety of zucchini squash not to mature properly. It was determined that this was not the best variety of zucchini squash to be grown during Alabama's summers.

There were only four SFAC farmers who agreed to grow okra for Lipman in 2015. Their crops did not bear at a rate and quantity to meet market demand. Some of the okra growers' crops looked healthy, but the lack of irrigation and the summer heat stunted the growth and profit. Some farmers had too much rain on their okra crops. Wire Grass farmers had an excessive amount of rain in their area. Heavy rains washed their okra seeds away or buried the seeds so deep that they could not germinate, while other okra growers received little or no rain in Central

Alabama. Only one independent farmer planted four acres of okra that produced at a rate that was marketable in 2015; however, he was no longer a member of the SFAC. The okra crop was not a success with Lipman or the SFAC growers. The farmers worked hard to meet the challenges of producing marketable produce to be sold commercially, but the ever-changing requirements had added more pressure on the remaining SFAC members to produce at a higher level.

The partnerships that were established between Tuskegee University, SFAC members and the commercial buyers have generally been a success. Each entity assisted farmers with resources to meet their goals; specifically, assisting them to obtain capital to help build the cooperative and dedicating personal time by sending representatives to interact with farmers. In addition, the commercial buyers have given valuable research knowledge on what is required to be successful in produce marketing. Farmers and resource specialists have visited the processing facilities of W.P. Rawls and Lipman. The farmers have seen the total operation system, and they have been active in the planning and operational process of their own facilities. The USDA and state auditors have worked diligently with SFAC farmers to ensure that audits are returned promptly. Each partner has fulfilled its share of support for the Alabama SFAC members' road to success.

### **Conclusion**

Despite the challenges, some of the SFAC farmers were successful in 2013, 2014, and 2015. It may not have been what they originally expected. It usually takes time for any new business to grow into a profit-making endeavor. The SFAC farmers had no knowledge of what was required to market produce at that magnitude, or the cost of supplies that were needed to accomplish everything from the growing to shipping. They know now that; rubber bands, tags, bins, pallets, RPCS, and transportation should be factored into the overall capital equation. They know that it is crucial to have a labor crew hired for the harvesting season. Capital has always been an issue for limited resource farmers, and this instance was no exception. Some mistakes that were made by the small acreage farmers were collation issues; that is, they only saw the end results of what they could net, but never truly calculated the cost to produce at that level. Seasoned farmers knew the risk and kept their existing markets for security. For them, this opportunity provided an extra income.

This experience has helped all the SFAC members acquire knowledge they would have never gained otherwise. They know how to obtain their GAP certification; the process of shipping in mass quantities; how to better plan for their planting seasons; what is required to harvest good crops; how crucial shipping dates truly are, and how important it is for them to work together as one unit to meet their needs. Some farmers realized that this was not their best fit and decided to obtain their own contracts. Some decided to stay in the cooperative to support their fellow members, but preferred to take a year or two off to recuperate from their losses. Others decided not to join the Cooperative and continued their farm operations using existing outlets, such as local farmers markets, roadside stands, grocery stores, and on-farm sales.

From the Tuskegee University Resource Team's point of view, the knowledge and experiences gained will expand its expertise to a whole new population of clientele. It is better equipped to assist new and beginning farmers interested in commercial growing. Just being able to help them calculate their start-up cost could make a difference in success or failure. This Initiative has aided the Resource Team members to have gained great respect for each other, based on the

amount of work that was required from each member. The dedication of team members, doing massive amounts of work over long periods of time, was laudable. It was and still is, worth the opportunity to help build a strong foundation for the SFAC. Overall, the SFAC members, Tuskegee University, and their partners have been successful in making progress based on their own experience, hard work, and sacrifice. Though difficult to achieve, the Small Farmer-Tuskegee University-Walmart Project helped to sharpen the Cooperative and the farmers for future opportunities.

### References

- English H., O. Porter, and J. G. Burleigh. (1999). "Commercial Fresh Market Southern Pea Production." [http://www.purplehull.com/pdf\\_files/FSA-6057.pdf](http://www.purplehull.com/pdf_files/FSA-6057.pdf) [Retrieved October 3, 2016].
- Lang M. G. (2012). "What is a Cooperative." <http://www.sfp.ucdavis.edu/cooperatives/> [Retrieved August 1, 2016].
- Robinson, M., J. Brown, A. Paris, W.A. Hill, and T.M. Hargrove. (2014). "Small Farmers Agricultural Cooperative Launched." *Professional Agricultural Workers Journal*. 1 (2). <http://tuspubs.tuskegee.edu/pawj/> [Retrieved July 10, 2016].
- Sikora E. (2011). "Plant Disease Notes-Anthraco-nose of Cucurbits." <http://www.aces.edu/pubs/docs/A/ANR-0809/ANR-0809.pdf> [Retrieved August 14, 2016].
- United States Department of Agriculture-Farm Service Agency [USDA-FSA]. (2015). "Noninsured Crop Disaster Assistance Program." <http://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/index> [Retrieved October 29, 2016].
- United States Department of Agriculture-National Agricultural Statistics Service [USDA-NASS]. (2015). "State Agriculture Overview". [https://www.nass.usda.gov/.../Ag\\_Overview/stat](https://www.nass.usda.gov/.../Ag_Overview/stat) [Retrieved August 15, 2016].
- United States Department of Agriculture-Natural Resources Conservation Service [USDA-NRCS]. (2008). "Soil Areas in Alabama." [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/office/ssr7/?cid=nrcs142p2\\_047868\\_soil](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/office/ssr7/?cid=nrcs142p2_047868_soil) [Retrieved September 28, 2016].
- United States Department of Agriculture- Natural Resources Conservation Service [USDA-NRCS]. (2011). "Strike Force Initiative." [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb1047302.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1047302.pdf) [Retrieved July 3, 2016].
- United States Department of Labor-Bureau of Labor Statistics [USDA-BLS]. (2015). "Occupation Employment and Wages." <http://www.bls.gov/oes/current/oes452099.htm> [Retrieved October 15, 2016].