

# *RDLN Field Project*

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HEALTH WELLNESS WITH FOOD AND FITNESS

SUBMITTED TO: STARRY KRUEGER  
RURAL DEVELOPMENT LEADERSHIP NETWORK

By

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### Abstract

We live in a world today where fast food is the norm. Chronic diseases and general poor health are on the rise, especially in poor rural communities in our country. Since the state of Mississippi has some of the country's most fertile land, one would think that we wouldn't have such a problem with poor health related to food consumption. My RDLN Field Project report, the Health, Wellness, Food, and Fitness Project, which is the subject of this paper, shows how a small Mississippi Delta community put forth efforts to bring healthy, fresh foods and fitness programs to regional communities in order to enhance their well-being.

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## *Introduction*

As a registered nurse in the healthcare profession for over 30 years, I often observed the effects of poor diet and limited physical activity among those I served. In hospital settings, I could not help but notice the alarming statistics and disproportionate health disparities of predominately minority communities. I attributed these problems to a lack of effective education concerning healthy eating, exercise, gardening, and how these factors affect health and overall well-being. I transitioned from the hospital and spent five years working as a school nurse with students in grades Pre-K–1. It was here that I observed even more alarming health and eating habits of our youth. For example, the vending machines in our local schools that contained potato chips, cookies, candy, and sodas have only recently been removed from schools in the Mississippi Delta. As a result, after years of working on what I considered to be “reactive health wellness,” I developed an interest and passion for “preventive health wellness.”

The Rural Development Leadership Network (RDLN) program gave me the opportunity to develop a project that built upon my existing work. This RDLN project is called the Health and Wellness with Food and Fitness Project (HWFFP), which is an extension of my personal, professional, and community goal to provide educational resources regarding diet, physical fitness, and food sustainability.

## *Background*

My initial efforts at farming and health-wellness creation led to the formation of the organization, Mississippians Engaged in a Greener Agriculture (MEGA) in 1999. It was founded as a direct result of the many financial and health disparities that have long plagued the Mississippi Delta. MEGA is also a diverse coalition of community stakeholders committed to establishing sustainable, equitable community food systems in the Mississippi Delta. MEGA

was the first designated Regional Outreach Training Center (ROTC) for Growing Power, a national organization, which taught people innovative intensive farming techniques for small and urban farms.

Mississippians Engaged in Greener Agriculture's initial goal was to improve the resources for and education of local small farmers. Within a few years we developed efforts in youth leadership, youth mentorship, community engagement, health education, food security, and locally grown vegetable purchasing and consumption. We then began working with churches, schools, and backyards across the Mississippi Delta, creating community gardens, and bringing people together. These efforts provided access to healthy, fresh produce, while helping improve the economy, and inspired residents to reconnect and reclaim their culinary roots. At the forefront of the revival, MEGA focused on the needs of the underserved and limited resource farmers, helping new farmers, backyard gardeners, as well as seasoned conventional farmers develop the knowledge, skills, and practices they needed to develop small-scale, high-yielding, organic farms whether on a quarter lot in their backyard or on a seven-acre field.

Many of the Mississippi Delta's older residents grew up working on sharecropper farms and now had little or no interest in returning to any sort of farming. However, MEGA realized that by growing small backyard gardens, residents would not only save money, by producing their own fruits and vegetables, they could change their eating habits, and thus combat the high level of diet-related illnesses in the region. Therefore, Mississippians Engaged in Greener Agriculture sought to educate potential farmers on the connections between diet-related illnesses and the importance of knowing where and how our food is grown.

## *The Health and Wellness with Food and Fitness Project - Overview*

### *RDLN Project Description*

My RDLN Field Project has assisted low-income residents of Bolivar County, Mississippi, more specifically, single-parent families who are apartment dwellers and homeowners from moderate to low-income families. The project focused on school age children who came from low-income families. It targeted 100 to 200 families, through small group interventions, awareness education groups, and access to healthier and more nutritional foods. I provided a resource center for parents and youth to educate and assist them in understanding underlying issues that could cause current and future health problems. This resource center is housed at MEGA's headquarters, 1503 Broadway Shelby, MS.

Our project activities can be categorized as follows:

- **Cooking Class:** Monthly cooking classes at MEGA.
- **Fitness Center:** Fitness training for to families (See Appendix J & k p.74-75).
- **Youth Project:** Mentoring of youth farmers by senior farmers in agriculture in the art of farming.
- **Training Center:** Monthly hands on training of families on farming skills (See Appendix M, p.77).
- **Food Pantry:** Monthly food boxes for needy families.
- **Gardens:** Tillage, seeds, amendments, technical support and hands-on training in schools, communities, churches, and backyards.
- **Delta Fresh Project:** Weekly fruit and vegetable boxes for families with cost share grant.

### *RDLN Activities*

These activities met the goals, objectives and sub-projects of my RDLN project:

Objective 1 goal 1:

#### Activities

1. Conducted nutritional classes and seminars on a bi-monthly basis
2. Engaged participants in practicing meal planning including:
  - breakfast, lunch and dinner
    - a. Youth planned daily healthy snacks
    - b. Youth demonstrated healthy fluid intake

3. Engaged participants in cooking classes in which they prepared healthy meals
4. Engaged participants in preparing homemade healthy snacks

Objective 2:

Activity

1. Harvested and prepared Delta Fresh Baskets for community members to purchase at a cost share

Objective 3:

Activity

1. Provided access to participants to an exercise program that included bicycling, exercise equipment at the MEGA exercise facility, walking, running, and gardening for youth.

Objective 4:

Activity

1. Recorded body mass indexes (BMI's) of selected 15 youth at 6 months intervals and at the end the two year period.

Objective 5:

Activity

1. Worked with community supporters of participating youth in all the above activities

Objective 1 for goal 2:

Activities

1. Participants attended workshops and conferences on sustainable agriculture
2. Participants went on agriculture field trips as well as site visits to organic farms

Objective 2:

Activities

1. The selected 15 youth farm plots of land provided fresh fruits and vegetables for the youth's consumption. These plots of land also provided fruits and vegetables for the market.
2. Participants worked in greenhouses, community gardens, church gardens, and at farms on the MEGA complex.

Objective 3:

Activity

1. Parents of selected 15 youth were actively involved in agriculture training and fieldwork.

### *Purpose*

The purpose of my RDLN Field Project was to recruit and engage families and youth farmers in sustainable agriculture in several communities within the Mississippi Delta. It intended to instill in families and youth farmers the desire to create healthy lifestyle habits in the community that would last a lifetime.

The purpose of this project was to create a healthier generation. This was accomplished through teaching youth participants to make better food choices (See Appendices P,Q,R, p.80-83). It was important that youth learn the benefits of healthy food for the body, and how to grow foods such as vegetables, small fruits, and small livestock.

### *The Community Served*

The Mississippi Delta is a land prized for its rich soil and abundant agriculture, but it is also known as a food desert. According to the 2013 edition of America's Health Rankings, Mississippi ranks highest in food insecurity in the nation. Over 22 percent of Mississippians experience food insecurity. With little to no access to fresh foods, many resort to processed foods that are high in fat, sodium, and sugar. This has resulted in an obesity and diabetes epidemic, one that threatens Mississippi more than any other state.

The RDLN Project was comprised of 100% African American participants. Eighty-five percent were single, and 15 percent were married couples residing in the same house. There were three to five children per household under the age of 18. The parents ranged from 30-48 years of age. Two of the participants dwelled in an extended family household. The median income of the participants was \$10,567. One hundred percent of the participants lived below the poverty line. All participants were Supplemental Nutritional Assistance Program (SNAP) recipients, with food allotments ranging from \$430-\$648 a month. One hundred percent of the

participants lived in rental apartments or homes. The population of Bolivar County is 42,109, of which 65.1 percent are African American. The unemployment rate is 12.3 percent, and the poverty level is 25 percent. The average household consists of a five-member family with the majority headed by a single parent.

### *The Mission*

The Field Project mission is to create a thoughtful and productive community of youth, families and farmers who work together to build a sustainable food system, leading to a healthy, physically fit, and fiscally sound life.

### *Goals and Objectives*

I. Goal 1: To implement strategies to influence youth and families to choose healthy lifestyles.

Objective 1: To supply hands-on nutrition education to youth involved in MEGA over a two-year period while monitoring 15 of the youth concerning their healthy lifestyles.

Objective 2: To provide low-cost fresh fruit and vegetables to community residents.

Objective 3: To increase participants' involvement in physical exercise activities over a period of two years.

Objective 4: To document changes in the health status of 15 youth involved.

Objective 5: To involve the community in the healthy lifestyles trainings of the youth.

II. Goal 2: To promote sustainable agriculture among participants as a means of adopting a healthy lifestyle and as a means of earning income.

Objective 1: To hold intensive training for participants over a two-year period on sustainable agriculture practices.

Objective 2: To provide hands-on farm experience to families over a two-year period in sustainable agriculture practices.

Objective 3: To involve the parents of the youth in the sustainable agriculture training.

### *Major problems and issues*

Adult obesity rates in Mississippi are at 36 percent (compared to 17 percent nationally). Childhood obesity rates are at 36 percent (compared to 16 percent nationally). Additionally, adult hypertension rates were also high at 36 percent (compared to 20 percent nationally). Health officers have highlighted food insecurity as a major concern with the same demographics. Mississippians experience more than twice the rate of food insecurity as the national average (25 percent versus 10 percent), with food insecurity among families at 34 percent in comparison to the national average of 16 percent, and hunger at 10 percent, in comparison to the national average of 4 percent. These factors tend to disproportionately impact the poor. A sub-analysis gathered in Foods 2000 indicated that Mississippians in the Delta experience even higher rates of hunger and food insecurity than the overall state averages.

### *Major obstacles to community development*

Often the greatest limiting factors for meeting needs are food, health, and financial resources. Coupled with resource management challenges, money was cited as another factor attributed to hunger among Mississippians in Foods 2000. Many of the families of the Delta Region are multigenerational units stressed by the costs of both medications and childcare needs such as diapers and other necessities.

## *RDLN Project Processes*

### *Interviews/Survey on healthy life styles*

As we began the project, we constructed a survey to understand the community's views on healthy living (See Appendix H, p. 68-72). After compiling a list of farmers, I made phone calls to set up appointments for interviews. I randomly sampled the participants. I divided Shelby

into 45 grid sections and numbered each section. I then placed the numbers in a bag and pulled out 15 numbers. The 15 people whose numbers were pulled were interviewed.

The purpose of the survey was to identify the health benefits of restoring the local food system. I conducted over 33 interviews. There were 15 farmers interviewed on restoring the lost art of farming. Five of the farmers were under the age of 50 and 10 were older than 50. Of this group there were 11 males and four females. There were 18 community members interviewed on the health benefits of restoring of local food systems. Eleven were under the age of 50 and seven were older than 50. Of this group there were 6 males and 12 females. We also selected families that were participants in the food pantry component of the project, starting with the first family that came into the pantry on Wednesday morning between 10 until noon, and every 4th client that afternoon until we got five families. In this way, five families were randomly selected to be interviewed from the seven apartment complexes within the city of Shelby.

Eighty-two percent of the participants described a healthy community as one that: is self-sufficient and thriving, has access to all they need within the city limits without having to leave to purchase fresh fruit or vegetables, has an active youth community, and is a healthy community with comparatively few reported health conditions.

Forty percent of participants responded that in order to become healthier, one must increase physical activity and eat the right foods. Fifteen percent stated that they thought a balanced meal was really meat, greens, and rice or potatoes. When asked to describe a typical meal, 85 percent responded that it was fried chicken, roll, rice and gravy. Sixty percent responded that when shopping for food, convenience and the price were the most important. Ninety percent responded that the local produce is not important to them mainly because they did not eat it often. Respondents said that they did not feel that there was enough access to locally

grown vegetables within the community. Respondents explained that their reasons for not purchasing fresh vegetables were due to both the availability and the shelf life compared to canned items. Eighty percent responded “No” to the question: “Are you currently growing any of your own vegetables?” Twenty percent responded “Yes” to the question “Are you interested in growing your own produce?” Eighty percent were single, 75 percent of the participants had children under the age of 18, and the average household size was 5. One hundred percent of the participants were African American.

### *Cooking Classes*

Interviews were conducted on cooking class participants prior to the presentation or lesson. Fifty-seven participants rated their like or dislike (It’s ok, I like it, I don’t like it, I never tried it) for a variety of fruit and vegetables. Responses are below:

<b>Vegetables</b>	<b>I like it</b>	<b>I don’t like it</b>	<b>It’s okay</b>	<b>I never tried it</b>
Leaf Lettuce	5%	10%		85%
Carrots	20%	14%	66%	
Zucchini Squash	5%	30%	15%	50%
Spinach	40%		10%	50%
Radish				100%
Cauliflower			5%	95%
Snap peas				100%
Bell peppers			100%	
Tomatoes	60%	15%	15%	10%
Green beans	5%		75%	20%

Kale				100%
Beets				100%
Bok Choy				100%
Sweet Potatoes	65%	5%	30%	
Cucumbers	50%	20%	10%	20%
Spaghetti Squash				100%

### Post survey

This interview was conducted after a series of cooking classes and lectures on food preparation and consumption. The 57 participants rated their like or dislike (It's ok, I like it, I don't like it, How it was served) for a variety of fruit and vegetables. Lastly they added how they incorporated the vegetable into their diet. Responses are below:

<b>Vegetable</b>	<b>I like it</b>	<b>I don't like it</b>	<b>It's okay</b>	<b>How it was served</b>
Leaf Lettuce	75%	25%		Salad
Carrots	35%	10%	55%	Oven roasted
Zucchini Squash	20%	15%	65%	Sautéed
Spinach	35%	5%	60%	Salad
Radish	15%	35%	45%	Salad
Cauliflower	15%	35%	55%	Steamed & Mashed
Snap peas	20%	50%	30%	Raw with dip
Bell peppers	60%		40%	Grilled
Tomatoes	80%	5%	15%	Salad

Green beans	15%	5%	80%	Grilled
Kale	25%	10%	65%	Baked
Beets	50%	30%	20%	Oven Roasted
Bok Choy	10%	45%	45%	Salad
Sweet Potatoes	85%		15%	Baked
Cucumbers	70%		30%	Salad
Spaghetti Squash	55%		45%	Pasta salad

See appendix ----- *Appendix AM. Fruit & Vegetable Taste Testing Pre-Post Test*

### *Project Operations*

I started working with 15 individuals in a six-week food and fitness program with the goal that they would later become mentors to the new participants. They would also continue with the program to develop more and learn more skills.

The 15 youth participants not only experienced the nutritional educational piece; they also began to get their hands dirty in farming activities (See Appendix L, p.76). The youth participants were taught hands-on composting, greenhouse construction, greenhouse production, vermicomposting (worms), fruit & vegetable production and livestock farming including: goats, rabbits, chickens, and fish. Many of the participants had never seen a live farm animal prior to their work with the project. In addition to the work completed on the MEGA site, the youth participants assisted in building 15 gardens in communities, backyards, and schools across Bolivar and Holmes counties. In addition to garden constructions, the youth each had their own 25x25 to 75x75 plot in which to grow their own fruit and vegetables. They had the option to use their harvest strictly for consumption or to sell it in the farmers market and for the Delta Fresh basket program.

The youth participants were paired with their assigned senior farmer mentor who trained them in sustainable agriculture and entrepreneurial skills.

We recorded body mass index (BMI) on the individuals at the time of their intake application and asked questions in order to identify eating habits and fitness regimens. This same inventory was taken midway through the project and at the conclusion of the project in order to measure changes in BMI and shifts in knowledge. (See appendix **B**, p.52).

### **Activities identified and reported from a youth in the garden**

- Watering the garden
- Digging
- Picking flowers
- Planting vegetables, fruits and flowers in the correct season
- Feeding the worms and using the ‘worm tea’ from the worm farm as fertilizer
- Picking vegetables and fruits when they are ready to eat
- Preparing healthy food, such as making salads and preparing school lunches
- Making crafts using harvested seeds, plants and flowers
- Composting, recycling and mulching
- Weeding
- Gathering seeds and dried flowers
- Deadheading flowers
- Preparing the soil with organic fertilizer
- Replanting and re-potting.

### *The Farmer's Market Cost Share Program*

One hundred families participated in the cost share option during the first year. According to our records, a total of 183 shoppers visited our farmers market during that time. Seventy-eight families came weekly, 46 families came biweekly, and 139 shoppers came monthly. All of the families that received cost share bags were from Bolivar County. The grant provided 225 cost share boxes for year one totaling 50 boxes per week. For year two, 75 cost share boxes were given and in year three 100 boxes were provided under the cost share plan.

This farmers market was run by MEGA with the assistance of 3 farmers, and MEGA youth to fulfill the grant funded project Delta Fresh Food Boxes.

**Year 1:** the farmers market was open 15 weeks. There was a price match incentive for the participants. When they purchased \$10 of produce they would receive up to \$25 worth of produce. This incentive provided 50 boxes to the first 50 SNAP families who participated.

Fifty families (75 shoppers) participated in the cost share offer. Twenty-seven families that came weekly; 31 that came bi-weekly, and 78 that monthly. All of the families that received cost share bags were from Bolivar County.

**Year 2:** the farmer's market was open 24 weeks. Again, there was a price match incentive for participants. When they purchased \$13 of produce and they would receive up to \$25 worth of produce. This incentive was provided to the first 75 families who participated.

Seventy-five families(125 shoppers) participated in the cost share option. Forty-seven families came weekly, 67 came bi-weekly, and 119- came monthly. All of the families that received cost share bags were from Bolivar County.

**Year 3:** the farmer's market was open 35 weeks. There was a price match incentive for the participants. When they purchased \$15 of produce and they would receive up to \$25 worth of produce. This incentive was provided to the first 100 families who participated.

## **Volunteers**

It is almost impossible for a nonprofit organization to function without volunteers. We developed a volunteer recruitment plan and announced it on Facebook and across a network of partners. In January 2013, Dr. Cayden Smith from Mississippi State University sent me an email because the school was developing an alternative spring break group to go out into the communities and do volunteer services. We had a follow up phone conversation and worked out

the logistics. As a result, 45 students provided volunteer services for us.

We signed a memorandum of understanding (MOU) that outlined the volunteer services the students would provide. Because we had just received the land, there was a lot of work to be done. They helped us clean up around the site and inside the buildings, removing trash and debris, including from the ditches. Dr. Smith asked if I was interested in being on a network listserv for volunteers during alternative spring break, and my response to him was yes!

Since that first MOU we have had volunteers from other colleges and universities from the east coast during alternative spring break. Based on our sign-in sheets, we have received 68,986 volunteer hours since 2015. In 2015 we had 43,446 hours volunteered, and in 2016, we had 25,540 hours volunteered (See Appendix U, p. 90-92). See the chart below.

<b>Volunteers for the Year</b>		<b>Volunteers hours for 1 &amp; 2 year</b>
6 TANF 25 hrs. /wk. 6 SNAP 25 hrs./mo.		7,800 1,800
3 VISTA 40 hrs. /wk.	50 weeks	6,000
3 FoodCorps 40 hrs. /wk.	47 weeks	5,700
7 NCCC 40 hrs. /wk.	6 weeks	1,680
156 Community Volunteers @ 5 hours/ wk.	52	40,000
30 youth volunteers 10 hr./monthly	52 weeks	3,000
<b>ALTERNATIVE SPRING BREAK 2015-2016</b>		
9 VA Tech 5 hours	3 days	136
13 University of Mississippi 8 hours	2 days	208
47 Mississippi State University 16 hours	1.5 days	752
Year 2 41 @ 5	1 day	205
11 University of VA 5	4 days	220

hours year 2 10 @ 7 hrs.	3 days	210
7 Maryland University 6 hours year 2 9 @ 5 hrs.	6 days 1 day	252 45
17 American University 6 hours	4 days	408
7 TFA Teach for America 5 hours	2 days	70

### *The Farm to School Program*

The Farm to School Program came from my vision to build a sustainable food system and develop a healthy generation among Mississippi's Delta youth. MEGA was responsible for developing and managing school gardens at the project's partner schools in Shelby and across the state of Mississippi. As result of MEGA's efforts, students, teachers, and parents have been introduced to neighborhood-scaled sustainable agriculture practices. MEGA has partnered with numerous individuals and organizations across the state that are passionate about food injustice. Chef Nick Wallace happily used his expertise and passion as a culinary ambassador to educate participants on the processes of transforming ingredients into nutritional meals. He provided students, teachers and parents with food facts, cooking demonstrations, and simple yet flavorful recipes. Additionally, youth at the participating schools worked with a social entrepreneurial consultant, Will Allen, Growing Power's CEO, on an entrepreneurial project. The project contributed produce to supplement the food provided at the schools and/or sold it to other government or community programs. The youth kept a journal to describe the impact of the school garden on

their families and communities.

Finally, as part of our operations at MEGA, we conducted hundreds of workshops and training opportunities on sustainable agriculture. Community members attended trainings along with others in Mississippi and surrounding states. Many traditional farmers came to trainings and learned to change their farming practices and engage in more sustainable agriculture practices. In addition, many people were encouraged to start farms as a result of our training initiatives. Many of our community members also took advantage of the library we provided that has several kinds of books on nutrition, agriculture, and sustainable practices.

### *RDLN TIMELINE MARCH, 2014 - March 2016. Monthly Reports*

#### **February 2014**

In February, I began my field project by meeting and putting partnerships and projects in place.

#### **March 2014**

In March, I prepared to attend the RDLN Institute at University of California, Davis to learn and meet with potential partners.

#### **April 2014**

In April, I worked on a panel presentation with RDLN about my work and project for the W.K. Kellogg Conference in Detroit, MI. I continued to set up activities and events to be carried out while at UC Davis.

#### **May 2014**

Having prepared the initial work to take place while I was gone, from Davis, I was able to direct the beginning stages of the Project. This month was the jumpstart of the Health Wellness with Food and Fitness (HWFFP) Project. I was grateful to receive funding from the W.K. Kellogg Foundation (WKKF) and the United States Department of Agriculture (USDA) Community Food Project (CFP) to assist in propelling the project to success. The funding provided financial assistance for garden supplies, cost share for fresh fruit and vegetables, and stipends for the youth component of the project.

Participants for the project were recruited mostly by word of mouth, through food pantry participants, community garden participants, and school garden participants. Once participants expressed interest in developing a healthier lifestyle, the fun and work began.

Goal one for the HWFFP was to implement strategies to influence participants to choose a healthy lifestyle, specifically regarding diet and physical fitness. In the first month we began efforts to achieve this by gathering text resources for participants. We created a library on site with books, magazines, video and audio materials that participants could check out or view during the educational training sessions. Also during this introductory phase of the project, participants were introduced to fresh vegetables and fruit. They were given nutritional education with recipe cards from farmers market partners on how to prepare fresh fruit and vegetables, to keep their nutritional value.

The first month of the project was filled with gathering educational resources for the over 100 interested participants as well as myself. For professional development, I attended and participated as a panelist with RDLN about my work at the W.K. Kellogg Conference in Detroit, MI. At the conference I was able to share my passion and efforts with like-minded individuals. I

was also able to network and gather resources to further my projects. Month one can be summarized as a month dedicated to partnership and resource development.

### **June 2014**

In the second month of the project we focused heavily on objective one: To supply hands-on nutritional education to about thirty youth involved in MEGA over a two-year period while monitoring 15 of the youth each year concerning their healthy lifestyles. The youth participants spent a morning and partial afternoon learning how to create a delicious healthy meal and snack. They had a question and answer session with a chef about better food choices. As a result of the educational session with the youth participants, the project expanded to schedule bi-monthly cooking classes for the community. The MEGA industrial kitchen was open every first and third Monday at 5:00 pm for all interested participants. In month two, at the start of this expansion, 25 people participated in cooking classes.

We educated participants on proper food choices, proper preparation, and portion control as these pertain to developing a healthy lifestyle. Participants received a toolkit of better menu options for breakfast, lunch, dinner, and snack.

We continued dialogue and additional planning with the extension centers, and local growers started to address the cost-share of fresh vegetable and fruit availability for our participants. Farmers were cooperative and excited about the partnership.

I had the goal to provide 75 families with fresh fruit and vegetables. In month two fifty families received fresh food items from the farmers. I fell short of my goal by 25 families. Not only were youth participants provided with nutritional education in month two they received physical fitness tips from one of our local partners, the Physical Education Instructor and Certified Fitness Trainer, C. Hayes. Participants were given an exercise routine to meet their

specific fitness goals. The fitness center on the MEGA site increased the hours of availability based on the needs of the participants. The goal was a service at 30 members. In that particular month we served 18 regular participants.

Also in month two, an informational session took place with all of the participants from the varying HWFFP components (youth, fitness center, food pantry, cooking classes, community, backyard, church and school garden participants) to further understand their needs and concerns as we continued to plan and design the project. The informational session clearly explained the goals, objectives, and expectations of the project to the participants. Participants and project members both received clarity and direction for the coming months.

### **July 2014**

The local extension offices have been great allies in providing the participants with the trainings and workshops. They have been informative and enlightening about the opportunities and services they provide on local and statewide levels.

The cooking classes continued and were enjoyable and informative for all of the participants. Aside from the classes, I engaged in dialogue and one-on-one trainings with a few participants to discuss meal specifics. We concluded each class with a fruit or vegetable dish they wanted to try the following week. This gave the participants something to look forward to and also helped to create a more meaningful learning experience.

The youth participants wanted to share a special workshop with their parents about healthy snack preparation and choices. One of the youth participants expressed the need to educate his mother on the importance of healthy snacks, because he stated that he only eats what is there. "I don't buy anything" he said. He was correct. This statement resonated with me and reminded me of the need to reach beyond the youth to the entire family.

Along with bringing awareness and the educational component of HWFFP, we also addressed the fresh food insecurity by providing access to fresh fruit and vegetables to participants. In addition to nutritional education, 75 families received fruit and vegetables from the partner farmers.

Youth participants were engaged in bi-weekly exercise plans at the fitness center. They were given their fitness regimens from the trainer and worked out at their leisure.

*I continued to work with the local extension office to foster better relationships with local growers. We were in the infancy stages of this effort. However, I felt confident that we would soon be operating smoothly.*

During the month of July the cooking classes focused on preparing cold fresh vegetable salads. The participants also made their own signature salad dressing with a vinaigrette recipe. The class was a success and the participants gained some great information on how pick, wash, cut up and prepare fresh vegetables.

Youth participants conducted a community interest survey concerning the programs that were offered by the MEGA organization and the HWFFP. The surveys provided additional guidance to steer and reroute our efforts. As a result of the surveys we met with other potential participants who were interested in the fitness center, backyard gardens, and food pantry bags.

There were several ongoing activities that occurred during the month of July as well, such as the open forum to discuss and share with the participants who had newly joined the project. New participants were informed of the goal and desired outcomes of the project. Twenty-five new food pantry families were added in July.

We planned to conduct a youth only survey to gather information on their perspectives.

The BMI's were recorded for the youth participants with the assistance of the local school nurses and the Bolivar County Health Department. After the numbers were recorded I provided an informational session in which each participant was analyzed. I then shared their

healthy BMI with them. Many of them were extremely surprised by their numbers. The training session led into the questions of health disparities and the fresh food injustice in this region. Participants insisted it was time to get moving and make better food choices. They were informed that their BMI would be revisited throughout the 2-year period. We also took their blood pressure. Their new numbers provided a measure of the effectiveness of the project.

The 15 youth participants not only received the nutritional educational piece, they also began to get their hands dirty in farming and agriculture activities. They were taught hands-on composting, greenhouse construction, greenhouse production, vermicomposting (worms), fruit and vegetable production and livestock farming including: goats, rabbits, chickens, and fish. Many of the participants had never seen a live farm animal prior to their work with the project. In addition to the work completed on the MEGA site, the youth participants assisted in the building 15 gardens in community spaces, backyards, and schools across Bolivar and Holmes counties. In addition to garden constructions, the youth each had their own 25 x 25 to 75 x 75 plot in which to grow their own fruit and vegetables. They had the option to use their harvest strictly for consumption or to sell in the farmers market and for the Delta Fresh basket program.

The youth participants were paired with their assigned senior farmer mentors who began to train them in sustainable agriculture and entrepreneurial skills.

In July we also created resource documents, including a code of conduct and policies and expectations for the volunteers. We also developed a training manual. Varying pieces of the project began to take form during the month of July. I summated the month of July with the analogy of an engine: the project began to click on all cylinders.

## **August 2014**

August started with a huge bang. We hosted a canning class with muscadine and concord grapes that were grown at the MEGA Training Center. A respected canning expert, Mrs. Bertha Adams, guided the participants. The participants were guided step by step on the necessary process to acquire Mrs. Bertha's coveted preserves. The canning class yielded 37 jars of concord grape jelly. The participants each took their jar of preserves home with them. There were several participants who expressed interest in canning their own muscadine and other grape varieties at their homes. Seven families requested fruit trees and six families wanted muscadine and other grape varieties. They were informed that the growing season would come in January of the following year. The canning class' interest led to a workshop training on care for fruit trees and vine fruit.

This included a hands-on demonstration with fruit trees with 13 families. This component of the project appears to be magnetic. People are hearing the buzz and seeing the different activities on the site, and they want to learn and participate more. Four additional people joined the project.

The participants conducted research on the different types of vegetables and fruit that will grow in the Delta weather using extension office and internet resources. The participants understood why certain fruit and vegetables are not productive in this area. Lastly, participants learned how soil and climate affect a harvest.

I contributed some of my personal reading material to the Training Center resource library. There were cookbooks and how-to books on gardening and food preparation. A personal favorite and great resource is the *Backyard Homestead*. This is a great read and very informative.

Seven churches had members who took part in the cost sharing of the fruit and vegetable purchases. The participants paid \$10 and received \$25 worth of fresh fruit and vegetables. They were excited about their savings and access to fresh food. Dr. Debra Moore attended several trainings.

Additional individuals expressed interest in the fitness center cycling club. The cycling club is also a fitness component. Fitness members can check out bicycles for additional cardiovascular exercise.

**September 2014** During this month we went to the local high school --Broad Street High School -- and met with the principal and teachers in order to recruit student participants. We specifically targeted the agriculture and science course, which is a vocational course that requires hands-on lab hours as a part of the curriculum. We offered the students the option to use the MEGA site as their lab for that component of their studies.

We also posted ads and flyers around town, at schools, churches and community spaces. We have been working across the northern area of the county. We started a phone tree to speak with families, public schools food service directors, farmers, and anyone who could have an interest in farming. We had two FoodCorps members who were actively working with the students of North Bolivar Consolidated School District.

We hosted a demonstration on "How to Construct a High Tunnel or Greenhouse." This hands-on demonstration was led by Cornelius Toole. Mr. Toole is a produce farmer from neighboring Mound Bayou, MS. MEGA provided the supplies and he donated his time to lead the demonstration.

We participated in the monthly farm to school phone conference. The phone conference includes school partners (farmers, teachers, food service directors, parents, NGO's and other

grassroots organizations) from across the state. We became acquainted with all the potential partners for the Farm to School Program. The project enabled them to have school gardens and opened up dialogue between students and the food service director.

We made fliers about the canning classes to be held at the site. We posted signs and flyers on the MEGA Facebook page, and sent out emails inviting participants to take part in the project.

Mrs. Bertha led another canning class. The class was exciting as the participants saw the benefits of canning and preserving in their kitchens as a way to maintain the integrity and nutrition of their fresh fruit and vegetables. Post-harvest handling and food safety were also discussed during the training class. I received a canning and preserve certification by taking the course online and learning a great deal about the canning process.

We were fortunate enough to garner a partnership with the Alcorn State University. They agreed to assist us in completing a training course for beginning farmers and ranchers. This prepared me for some of the work that was necessary for us to complete and provided a certificate in developing a risk management program. We were also able to reach families in the community and four farmers attended the training.

I also entered into a partnership with My Brothers Keepers and Biking Walking Mississippi. Both of these organizations, based in Jackson Mississippi, assisted in organizing the biking club. MEGA operations and partnerships were beginning to spread beyond the MS Delta. We met three times in face-to-face meetings and two times by phone. I worked on the policy, procedures and guidelines for the cycling club. assisted in organizing the club.

We held a cooking and canning class on chow-chow with eight female participants and one male participant in attendance. The canning classes were becoming more and more

enjoyable for the participants, who were eager to see what they would create at each gathering. The trainings became more of a social gathering that also happened to be informative.

### **October 2014**

I hosted the first annual Delta-wide Agriculture Resource Fair. There were 16 vendors and 137 participants. The vendors were: Alcorn State University, John Coleman, Tri-County Agricultural Group, Robert Gates, Fitness Trainer and Shelby Middle School Physical Education Teacher and Coach Hayes, USDA Rural Development Greenwood Mississippi, Bolivar County 4H Extension, Laurie, NRCS from Cleveland, MS, NCAT Mississippi, Rockell Wood, SNAP / TANF Bolivar County, and Ms. Clark. This event (Delta-wide Agriculture Resource Fair) was designed to be a tool for growers, families, farmers, schools and churches to inform them that we all have allies who are championing the same things regarding food insecurities and education. This event also informed these populations of funding and other resources to assist them with their gardening and farming efforts.

### **November 2014**

In November we were in the planning phase of Agricultural Youth Day. We submitted a second reminder e-mail communication with a follow-up phone call to all the local high school agriculture classes and interested youth participants. We hosted a nutritional educational hands-on healthy snack choices for youth event. We focused on raw and crunchy vegetables. The youth were able to make their own dipping sauce. They had a contest for the best tasting veggie and dip combination.

We continued to monitor the 15 youth concerning healthier lifestyles through their activities and food consumption.

We hosted an intensive training for the youth with sustainable agriculture practices. The hands-on training was on the different types of composting.

I promote sustainable agriculture among youth as a means of adopting healthy lifestyle and as a means of earning income.

The uniqueness in the project lies in the fact that this is a comprehensive program that teaches and encourages participants to make positive lifestyle changes at an early age when they are most receptive to new ideas. The fitness component utilizes activities that do not require the use of expensive equipment or costly gym memberships. Participants are able to track their fitness progress by documenting the number of steps walked per day.

Tonya Lee and Abe Hudson both agreed to be my Field Advisors. They will mentor and assist me in the evaluation of my project and in tracking my progress towards my goals.

I spoke with Dr. John Green about assisting me with my course syllabus design and corresponded with him by email. I spoke with Dr. Debra Moore who has also been an asset for me. She helped to design a system to evaluate my field project and my third self-designed course syllabus for the fall of 2015. We communicated via e-mail and telephone. **December 2014**

In December we were in the infancy phase of communicating with partners that could work with the health and wellness component - Dr. D.J. Hadley and two other volunteers. There were several different nutritional components that were addressed. We partnered with Chef Nick Wallace from Jackson. Chef Nick conducted a cooking lesson, preparing all fresh and organic vegetables for an audience of high school students from a local agricultural class. He spoke to the group about entrepreneurial skills as well as demonstrating proper food preparation. Dr.

Hadley agreed to work with us by informing his patients of the availability and benefits of fresh fruit and vegetables, and exercise.

### **January 2015**

In January, I recorded BMI's for 11 cycling club members. Youth participants agreed to participate in school served breakfast, lunch, and healthy fluid intake. FoodCorps volunteers worked with them in a youth afterschool program on nutritional education.

I hosted a workshop on planting in trays for seedlings titled 'Where Growing Starts?' There were 13 youth and 11 adults in attendance for the workshop.

I attended and participated in the SSAWG-Southern Sustainable Agricultural Working Group Conference in Mobile, Alabama. I was able to raise funds to bring two other farmers and one youth participant to the conference. I also attended the Vista Anti-hunger Coalition from New York, New York gathering in New Orleans, LA. January 30, 2015, I attended the Farm to School Summit in Raymond, MS.

I submitted an application to the Volunteers in Service to America National Civilian Community Corps (VISTA NCCC) southern office in Vicksburg, MS, to April Bazzi, the program director. This project work was intended to build infrastructure such as greenhouse construction, building rehab, and assist with constructing raised beds gardens for senior citizens at the local senior housing complex.

The 15 stipend youth and 11 non stipend youth agreed to grow their own plot, sized 50 x 50 feet, this year to sell at the market. The plan was for the 15 stipend youth to serve as mentors to the new youth participants.

I hosted a meeting with Joel Berg of Hunger Free America and staff from Senator Thad Cochran's Office on the MEGA site. We toured the MEGA grounds and operations and

discussed hunger and the work that we do with RDLN around food insecurity, hunger, and fitness.

I wrote a grant to Mississippi Department of Health for fitness and health for 10 bikes, which was approved. As a result, the cycling club was formed. The funding provided resources for 15 individuals to participate in that program. Additional partnerships have grown with others that are working with us to create a healthier person. Bicycles were donated to go along with the fitness center for community use. We also had a volunteer fitness coach, Coach Hayes, who volunteered 10 hours a week.

I co-chaired monthly phone conference calls with the Farm to School Program, with 39 or more people from across the state including farmers, food services directors from schools and daycare centers, other NGOs, and the MS Department of Education Extension Service. The intention of these phone conferences was to form a statewide coalition.

We hosted a Youth Agriculture Day for high school students, designed to meet the needs of agricultural science classes. but not limited to those students. We had 67 youth from Coahoma Agricultural High School, 4-H youth from the community, and three youth who were home school participants. There were five teachers with the students from Coahoma Agriculture High School. A partnership formed through which they have agreed to use the site for hands-on training and we will visit the High School at least 2 to 3 times per semester to work with their agriculture students.

Students from Coahoma Agriculture High School spent an informational morning learning about composting. A PowerPoint presentation highlighting different types of composting practices was shown. The morning concluded with students being led in a hands-on demonstration of the building of compost.

**February 2015**

Each of the 27 youth participants was placed with a seasoned farmer mentor. The youth were to spend five hours a week to gain a better understanding of farming across a six week timespan.

We developed a MOU with each college and university that planned to participate in the upcoming Alternative Spring Break volunteer efforts.

We picked up four cubical desk and six desk chairs donated from Monsanto office and farm. The facility was closed because of downsizing.

We hosted the first cycling club meeting with a “Fix-a-Flat” workshop in partnership with Bike Walk Mississippi and My Brothers Keepers. There were 14 members and four non-members in attendance.

**March 2015**

In March, the youth planted 36 72-cell trays of seeds to sell at the farmers market. We held a focus group with 17 participant attendees in partnership with the Healthy Communities in Hernando, MS and the Mississippi Department of Health. The focus was on the question, “What is a healthy community and what it should look like?” The question led into dialogue and continued discussion about where our community is according to the answers given to this question.

I was able to get two more L-shaped desks and a break room table donated from Monsanto.

I picked up 45 bicycles that were donated from Bike Walk Mississippi to MEGA Biker Club for members to check out.

Fifty-three volunteers participated in the Alternative Spring Break and logged more than 770 hours of volunteer service. The participants were Greek-letter organizations, schoolteachers, Teach for America, and undergraduate co-ed students from various colleges and universities who wanted to lend a hand rather than visit Panama City.

### **April 2015**

During this month we completed both course syllabi for summer courses. We received email notification from VISTA-NCCC that our application was approved. I worked on my presentation for the April 1-2, 2015, "Fight to Live: Symposium on Race and Sustainability," with the University of Mississippi and Delta State University. At this symposium I presented on the local food systems of the 1960's and 1970's and the health benefits of restoring and reshaping the lost art of the family farm.

I wrote a grant to State Farm for a youth driven project. The grant was designed to assist youth with setting up an advisory board for this grant. Dr. Debra Moore, Attorney Julian Miller and I worked on a State Farm program for youth and mentoring program and new leadership work for youth.

We created flyers about the May 2 event..

### **May 2015**

We designed questionnaires for farmers, schools, and backyard, church and community gardeners in an effort to restore the lost art of farming. The questionnaire highlighted the health benefits of restoring the lost art of family farms. I gained insight into new ways to stimulate interest in growing produce.

I hosted and co-hosted monthly phone conference with the Farm to School Program efforts. For each monthly call a different topics was discussed as it related to the Farm to School

Program. The phone conferences began with a group of seven attendees and grew to as many as 38. The goal was to develop Farm to School partnerships across the entire state. Participants were encouraged to invite others, so the phone conference continued to grow. As noted before, the calls included farmers, school and daycare food service directors, representatives from the department of education, department of agriculture, and department of Health, teachers and other NGO's. The calls led to the National Farm to School Annual meeting, a networking gathering with group activities to discuss, plan, and share the outcomes of our work.

MEGA hosted a Super Saturday in which we had several activities for all ages. There was a 5K walk, a run, and biking events. There were 13 participants. Other competitions included a three-legged race, a sack race, jump rope, hula-hoop, horseshoe and many other fun games for the children. The activities were fun while getting the children to be active. Several parents requested that we host the event monthly.

On May 7th, I made a presentation to farmers, food service directors, the department of education and department of agriculture as I led the Farm to School Program phone conference. I informed them of my roles in the Farm to School Program. Those things included school gardens, nutrition education, cooking classes and taste testing of fresh fruits and vegetables.

### **June 2015**

In June the two classes that I was enrolled in were really great and I learned a lot. Through random sampling, I selected my participants for the survey after compiling a list of farmers made phone calls to make appointments to set up interviews. I divided Shelby into 45 sections of grids numbered each section. I then placed the numbers in a bag and pulled out 15 numbers. The 15 numbers that were pulled were interviewed.

I conducted over 33 interviews. I conducted interviews on restoring the lost art of farming with 15 farmers. Of the 15 five were under the age of 50, and 10 were older than 50. In this group there were 11 males and four females. I conducted interviews with 18 community members on the health benefits of restoring of local food systems. Of the 18, 11 were under the age of 50 and seven were older than 50. There were; 6 males and 12 females in the group. I completed the results for the survey.

From the VISTA NCCC, seven team members volunteered for one month, during which they completed 1,182 hours of service. They helped to construct three greenhouses and tore out and rebuilt four porches. The volunteers also painted four murals on four buildings. The volunteers helped to clean and give the site a facelift.

### **July 2015**

During the month of July I met with Coahoma Community College and Coahoma Agriculture High School. I assisted on a grant project designed to create a healthy campus. I provided nutritional education and the necessary lifestyle adjustments to achieve optimum health.

I began to brainstorm with other farm to school program affiliates on how to spread the word about our work. I contacted the State Department about their State Conference for Public and Nonpublic Schools and Organizations and schools. Their response was: *“We are delighted to inform you that you have been placed on our program for our annual Summer Conference 2015 on July the 8th at the Hinds Community College-Clyde Muse Center, Pearl, MS. You are on our program at 11:30 -11:40, if the program permits you may have an additional 5 minutes.”*

We presented to an audience of food service directors from across the state on the importance of a Farm to School partnership, healthy meals, and the importance of locally grown fruit and vegetables.

There was also a two-day meeting in Jackson with nine other project partners across the state, mainly in Tupelo, Jackson, Oxford, Sunflower, Greenwood and Shelby, Mississippi. The goal of the meeting was to create a stronger Farm to School Program.

I presented at the “Delta Regional Forum: Population, Development, and Entrepreneurial Problem Solving,” which included John Green and other partners at the University of Mississippi. I shared the work that defines MEGA and how it relates to the local and regional food system.

### **August 2015**

During the month of August we entered a partnership with several counties in the southwest corner of the state. I assisted in creating school and community gardens, with the greater portion of time committed to designing school gardens. I also provided guidance and resources for healthy eating, and information to educate people within the schools and community on the benefits of locally grown foods. I performed the second round of BMI for the youth who were participating in the project.

We sold 68 cost share bags to two families who were participating farmers in MEGA’s project. Not only did the customers receive their fresh vegetables, they also received a variety of recipes in their market baskets. We wanted to impress upon participants the importance of eating fresh, but also to inform them how to prepare dishes without losing the integrity and nutrition of the vegetables.

### **September 2015**

In September I assisted in hosting MEGA’s Fall Fest. There was a canning class on peach preserves in which there were 13 participants. Many of the participants spoke of how pretty their

preserves looked stating that they would only use them for decoration. Others stated that they could hardly wait to break the seal on their jar.

We began work with 7 schools in southwest MS. I assisted in the startup and design of the school and community gardens.

### **October 2015**

In October I co-hosted MEGA's 2nd Annual Youth Agriculture Day. Forty-seven students participated in a fun-filled morning of composting, seed transplant, animal care, and day-to-day farm life activities. The students enjoyed the hands-on activities.

There was a canning/cooking class on making pumpkin butter and sweet potato butter. The 21 participants were very fascinated with the different things that can be preserved or made with a few fresh ingredients.

We recorded a television segment on the Delta Renaissance with the Sade Turnipseed Show, which airs weekly on a local television station. It was a two-part segment that highlighted the work of MEGA, the HWWFP and RDLN.

We co-hosted RDLN's Assembly at Piney Woods School in Piney Woods, MS. During a field trip to the Delta, Assembly participants from 14 states and Belize, Central America, visited MEGA's site and were served a healthy dinner.

Twenty-one people attended the canning class. Participants canned chow-chow once again because it was previously so successful. Participants that missed the initial class were jealous of the other participants. The classes were very successful.

### **November 2015**

In November, 24 participants attended the blackberry jam preserves workshop. Two of the participants were men and they stated that they remembered their grandmothers making

preserves when they were children and that they wanted to revisit that happy time by making their own preserves.

Abe Hudson assisted with my presentation on ‘How to Improve My Credit Score.’ I planned for only five participants, but through word of mouth 16 attended. The much-needed topic of fixing one's credit score drew in a sizable crowd. The participants were very interested in and in need of the information presented.

I designed the flyer for MEGA's 2<sup>nd</sup> Annual Community Health and Agriculture Resource Fair, and the MLK Day of Service in partnership with FoodCorps and VISTA Volunteers.

We invited over 20 vendors to the event. There were vendors from a variety of partners of MEGA. We invited doctors from the Healthy Heart Clinic. There were nutritionists from across the state. There were attendees from the WIC Office, Delta State University, Ole Miss, the Southern Mississippi nutritional education departments, a WKKF Food and Fitness Fellow, the Health Department, and the NW Regional Medical Center. The main focus was the importance of food as it relates to health issues.

### **December 2015**

I communicated via telephone with each school in Bolivar County in hopes of partnering for the 2nd Annual Holiday Food Drive. The schools were very willing to assist with our effort.

We distributed food boxes along with holiday flyers to 13 schools across Bolivar country. We solicited the help of schools across the Delta to assist in the 2nd Annual Holiday Food Drive.

I made follow-up telephone calls to vendors and donors for MEGA's 2<sup>nd</sup> Annual Community Health and Agriculture Resource Fair, and the MLK Day of Service to confirm participation.

I arranged a day of pickup with the 13 schools. I wrote a press release to media outlets.

The 2<sup>nd</sup> Annual Holiday Food Drive yielded more than 700 canned items. We were able to donate 67 holiday boxes to families in need.

### **January 2016**

In January community volunteers, partners, and I held a meeting planning MEGA's 2<sup>nd</sup> Annual Community Health and Agriculture Resource Fair, and the MLK Day of Service event. Various tasks were assigned to each individual to ensure the success of the event.

We hosted MEGA's 2<sup>nd</sup> Annual Community Health and Agriculture Resource Fair, and the MLK Day of Service event with 166 people in attendance. Evaluations showed that the event was beneficial and the vendors were very resourceful. The day of service was a collaboration between MEGA, AmeriCorps VISTA, and Food-Corps Volunteers. There were 22 vendors present, as well as Alcorn State University's, John Coleman, Tri County Agricultural Group with Robert Gates, Fitness Trainer, Shelby Middle School PE Teacher Coach Hayes, USDA Rural Development Greenwood Mississippi, Bolivar the County Extension Laurie with 4H, NRCS from Cleveland Mississippi, NCAT Mississippi Rockell Wood, SNAP / TANF Bolivar County, Ms. Clark, WIC- USDA Pervi Green, Center of Justice Jackson, MS, Help-Help MS, Delta Health Alliance Smoke Free MS with Beverly Coleman-Johnson were vendors who provided a wealth of knowledge and resources to the participants on a variety of topics.

This event was designed for growers, families, farmers, schools and churches. We wanted them to realize that there are resources and allies that are working with similar goals and

expectations. We also wanted to inform them of funding and other resources to assist them with their gardening and farming efforts.

We applied for a grant in collaboration with NCAT to assist with 25 schools gardens each for 3 years across the state.

## **February 2016**

In February we organized the Duncan, MS community garden with the Bonanza BUYING Club. The acre and a half of land would serve as a garden plot for 17 families. They received seeds. Area farmers would till the soil. The city partnered with the elementary school for garden space.

### **Eating Healthy on a Budget**

This month we also hosted a Battle of the Chefs. For this event we partnered with the Mississippi University for Women from Columbus, MS, culinary arts department spring tour. The chefs in training presented several fruit and vegetable dishes. They emphasized how you can one enjoy a tasty, bright dish without tons of fat, sugar, or salt. There were 17 participants who dined and enjoyed the cooking lesson. This event was arranged by a former MEGA youth volunteer, Lamon Stapleton who is now a culinary arts student at MUW. He has volunteered since his summer of 2008. The instructor was impressed with the availability of the fresh herbs and vegetables.

I was in constant conversation with colleges and universities about volunteers for Alternative Spring Break. I planned out working activities for students. Thirty-one from Mississippi State University, 11 from the University of Virginia, 12 from Maryland University, and from 17 American University. e planned for the students from Maryland University to live on site at MEGA.

We participated in Heart Health Month/Women's Heart Health initiative with Dr. Helen Beatty of the American Red Cross in Jackson Mississippi. Individuals statewide were asked to wear red to symbolize and bring awareness to this crucial health issue.

### **March 2016**

In March we requested wood chips from a tree service group in town that cut trees from around power lines. We received 30 truck-loads of donated wood chips. The chips were designed to be used to make mulch to cover pathways around raised beds in gardens; schools, community spaces, at the center, in backyard gardens, and around our fruit trees.

We signed an MOU with universities for the services during the Alternative Spring Break that volunteers were to provide. Student volunteers from Maryland University were with us for five days for six hours a day, contributing a total of 360 hours. Ten greenhouse tables, size 6 x 12 were donated to us. The tables were loaded and unloaded at the MEGA site. The tables, which needed minor repairs, were repaired by the Maryland University students who painted them and placed them in our greenhouses after putting down mulch and wood chips.

### *Partnerships*

Many partners -- organizations and people -- were involved in making this project possible. They involved by request or they volunteered their services. I attended many workshops, field days, and conferences and where I met a lot of people. by attending their sessions or by being introduced to them over the years of my work. Therefore, I was able to pull from my contacts to assist my RDLN project. Support for the RDLN project was very generous. The local communities were very receptive to the program. Financial support as well as volunteer support was both local and nation-wide. We received local and national grants, as

well as federal, and state grants. The following are a list of partnerships and financial and in-kind support :

1. **The W.K. Kellogg Foundation** funded the stipends for fifteen youth and supplies that were used to develop gardens for schools, churches, and backyard and community spaces in the agriculture program.
2. **The City of Shelby** assisted by setting our water bill for the farm at a low \$51 per month.
3. **The North Bolivar School District** allowed us to work within the school system creating school gardens, participation in the Farm to School Program, and provided hands-on training for students.
4. **VISTA** volunteered to assist in the community outreach to my field project according to their VAD.
5. **FoodCorps** volunteered to assist in the community outreach for my field project according to their work plan. They assisted greatly with school gardens and nutritional education.
6. **MEGA** housed the fitness center, demonstration kitchen for cooking classes, and resource library.
7. **My Brothers Keeper Inc. (MBK)** funded resources for nine school gardens and served as a vendor at the Community Health and Agricultural Resource Fair.
8. **CFP Community Food Project** funded 10 youth, greenhouses, gardens and market basket cost share fruits and vegetables.
9. **Bike Walk Mississippi** donated 45 bikes to assist in our fitness center.
10. **Mississippi Department of Health** funded 15 bikes for the cycling club.
11. **Growing Power:** Will & Erica Allen conducted two bi-annual hand-on training and hosted, one site visit to the Growing Power headquarters in Milwaukee and Chicago.
12. **Monsanto** donated 6 cubicle desks.
13. **Women United** donated a large freezer to stock meat and vegetables for food pantry.
14. **Bolivar County Road District** provided topsoil and cleaned off lots for more garden plots.
15. **DEBTS:** Abe Hudson provided financial training and technical assistance and served as a vendor at the Community Health and Agricultural Resource Fair Day.
16. **Alcorn State University:** John Coleman served as a mentor for our youth, donated 10 6 x 12 greenhouse tables and served as a vendor at Community Health and Agricultural Resource Fair Day.
17. **Tri County Agricultural Group:** Robert Gates agreed to mentor, allowing our youth to job shadow and provide technical assistance. The Tri County Agricultural Group served as a vendor at Community Health and Agricultural Resource Fair Day.
18. **Fitness Trainer:** Shelby Middle School PE Teacher Coach Hayes assisted with developing fitness routines for youth participants.
19. **USDA Rural Development of Greenwood Mississippi** served as a vendor at Community Health and Agricultural Resource Fair Day.

20. **Bolivar County Extension 4H:** Laurie worked with youth on how to care for animals and assisted with developing a 4-H group. The Bolivar County Extension 4-H served as a vendor at Community Health and Agricultural Resource Fair Day.
21. **NRCS from Cleveland Mississippi** funded 90 percent of the cost share for well and greenhouse and served as a vendor at Community Health and Agricultural Resource Fair Day.
22. **NCAT of Jackson, MS:** Rockell Wood offered two workshops, educational material, and served as a vendor at Community Health and Agricultural Resource Fair Day.
23. **SNAP / TANF of Bolivar County:** Ms. Clark- partnered with them as a site for training hours for nine TANF and six SNAP workers, and served as a vendor at Community Health and Agricultural Resource Fair Day.
24. **Dr. Degail Hadley** advised and encouraged patients to take part in the services and resources provided through the HWFFP.
25. **Dr. Debra Moore** served as advisor for the HWFFP.
26. **Chef Nick Wallace** led several cooking lessons for youth participants.
27. **Dr. Greene** served as advisor for HWFFP.
28. **Bertha Adams** led the canning and preserves cooking classes.
29. **Taurean Morton of VISTA** assisted and provided connections with partners and potential partners.

Dr. Hadley partnered with the efforts of the RDLN Project. We were introduced by Taurean Morton, a former VISTA member, because we shared similar passions and interests, and we developed a strong partnership. Dr. Hadley's local practice is located in nearby Cleveland, MS. He wanted to work with the community to promote health and wellness through food and fitness in the hopes of decreasing medication needs. He agreed to refer patients who had various health conditions and dietary deficiencies to our program instead of giving them medicinal treatment. The referrals were for cardiovascular strengthening and fitness to improve their cardiac output as well as input. He also recommended individuals that needed nutritional education and dietary changes. Dr. Hadley patients participated in the cost share fresh vegetables component of the project. They purchased the boxes for \$12 and received \$25 worth of fresh vegetables.

### *Evaluation*

Sixty percent of the participants responded that they had been in the market farming business for less than two years. Forty percent responded between two and five years. Participants had never participated in a cooking or fitness class before. Forty percent of the participants responded that they knew almost nothing about growing warm season crops, 20 percent responded they knew a little, 40 percent responded that they knew a good bit. Forty percent of the participants responded that they knew almost nothing about high tunnel production, 40 percent responded they knew a little, 20 percent responded that they knew a good bit. Forty percent of the participants responded that they knew almost nothing about fruit tree grafting, 40 percent responded they knew a little, 20 percent responded that they knew a good bit. Participants ranked the workshops session in order of importance and the information acquired, listing growing warm season crops first, fruit tree grafting second, and high tunnel production/construction third. There was a 33-49 percent knowledge increase after the lecture presentation.

Before my presentation I conducted an oral review of the participants' baseline knowledge. I asked them some terms to check their vocabulary comprehension. After the presentation the post survey showed that their understanding of financial statements increased by 60 percent. There was a 55 percent knowledge increase after the lecture presentation and taste testing of new vegetables.

Two hundred and twenty seven families participated in the cost share Delta Fresh Food Boxes opportunity over the two-year period. There were parents of the youth participants that expressed their appreciation for the work that has been done with their children and within the community.

There was a 43 percent knowledge increase after the lecture presentation on the benefits of fruit and vegetables in their diet as it related to My Plate. Each week students reported that they gained more and more knowledge on living a healthier lifestyle. The information was well received and the participants stated that they would begin to incorporate the information into their daily lives and in meal planning and preparation for their families.

Initial BMI collected on the youth had a 29.4 mean. At the conclusion of one year the mean was 27.6. The cycling club was incorporated in year two as an additional component to the fitness and exercise opportunities. The bicycles were secured from a grant sponsored by the State Health Department. The grant allotted funds for seven bikes. After year one My Brothers Keepers (MBK) introduce me to a potential partner, Bike Walk Mississippi, for additional bike donations. They came up to visit our site to see how they could assist and partnered with our effort by donating additional bikes and a workshop of bicycle maintenance.

#### *Garden Development Program Results*

Managing Organization: MEGA, D. J. Baker (Food Corp), Chef Nick Wallace & (MBK) My Brother Keeper Inc.,

Project Outcomes:

Youth have experienced the linear process of creating a garden from concept and construction through planting and harvesting. These youth are a combination of students from area schools and MEGA youth.

Youth understood approaches and methods of collaborative creation.

- Youth understood connections between gardening planning and management and their school lessons.
- Older youth had opportunities to mentor younger youth in garden management.
- Teachers had opportunities to enrich their curricula by linking with the garden activities at their school.

*Behavioral Outcomes* (See Appendix T, p. 85-89)

Youth :

- Were empowered to ask the Why? What? Where? So they were able to make changes towards healthy eating habits;
- Experienced self-actualization: Their behavior and choices were chronicled in their journal writings. They highlighted why it was so important that they begin to change their diets to live a healthier life. They shared in great detail how food and meal preparation can and should be a time for fellowship and nourishing their bodies.
- Were introduced to fresh fruit and vegetables right from the garden.
- Reported making better/healthier food and snack choices.
- Reported to have increased water intake and fewer sodas.
- Ate a lot of the food that was planted and grown by them.

*Social Enterprise/ Community Impact Program*

Managing Organization: MEGA and Alcorn State University Demonstration Farm in Mound Bayou, MS.

Through these activities, the youth also developed (a):

- Skills to make different choices based on their knowledge of the different types of sectors that support healthy eating.
- Plans to sell their excess produce.
- Presentation and display of their social entrepreneurship project.

*Contribution to the Community*

The RDLN Project has made an enormous impact on the community. There were many youth who participated in the program and the parents were glad that we worked with them and provided information and recreational activities for them. Local people developed a community food system that they controlled, and that benefited the overall economy of our towns. There was an understanding that they were becoming future leaders in the program. They were prepared to assume leadership positions in the community.

In conclusion, the project will have a long-term impact by allowing vulnerable children to have local fresh vegetables and provide for their own food consumption needs. The

communities now have the option to buy fresh, affordable locally grown vegetables from the local youth farmers and/or buy them in on Delta Fresh Basket. We now have a community food system that we are in complete control of, and that will ultimately benefit the overall economy. Farmers in the Delta area are dwindling in number. In order to save our family farms we can now look to the youth and continue to train them. Also, by having the older farmers serve as mentors, our agricultural future will be strengthened. The outcome and lessons learned from the project will be applicable to other locations.

#### *Overview of Project Results*

The above goals were achieved through the coordinated activities with partnering organizations. Each has management and oversight responsibilities over one of the project's three parts, described below with accompanying outcomes:

The vegetables grown by schools, churches, and families were peas, greens, okra, corn, cucumbers, tomatoes, onions, sweet potatoes, fruits and nut trees. We also raised goats, chickens, geese, ducks, and rabbits. Parents reported that their children's participation in the project supplemented their food supply. During the summer months, mothers participated in canning classes and food preserves in jars and freezer bags so that they could have fruits and vegetables for the winter.

During this project, they learned what it meant to truly sustain their food source. They learned when it was time to plant and harvest. They also learned how to properly wash and prepare fresh vegetables for a meal.

The youth participants reported learning a great deal about how to grow things. The education and experience gained from the gardening component has a greater impact than I initially envisioned for the youth. The youth learned:

- Responsibility: They learned to care for the plants.
- Understanding: They learned about cause and effect (for example, plants die without water, weeds compete with plants).
- Self-confidence: By achieving their goals and enjoying the food they grew the youth developed a sense of pride.
- Love of nature: They had a chance to learn about the outdoor environment in a safe and pleasant place.
- Reasoning and discovery: They learned about the science of plants, animals, weather, the environment, nutrition and simple construction.
- Physical activity: They were engaged in doing something fun and productive.
- Cooperation: They learned cooperation including sharing play activities and teamwork.
- Creativity: They discovered new and exciting ways to grow food
- Nutrition: They learned about where fresh food comes from.

### *Reflections*

As I reflect back over the past two years of this project, I must say this project work has been phenomenal. I started this project with the youth, in hopes of cultivating the next generation of farmers. I want to create a healthier generation by changing their diet. I want to teach them the benefits of raising, eating locally grown fruit and vegetables and knowing about their sales potential.

This project has had such a great impact on my life and the community. I have become empowered by the impact that it has had on the community. The youth reported such great outcomes and increased knowledge that I feel that the overall mission was accomplished.

In the August canning class, we canned different types of hot peppers and we made pepper sauce. We had 13 participants in the pepper canning class. August started with a huge bang. We hosted a canning class with muscadine and concord grapes that were raised at the MEGA Training Center. A community respected canning expert, Mrs. Bertha Adams, guided the participants. The participants were guided step by step on what's needed to create Mrs. Bertha's covered preserves. The canning class yielded 37 jars of concord grape jelly. The participants each took their jar of preserves home with them. There were several participants

that expressed interest in being able to do canning using their own muscadine and other grape varieties at their homes. Seven families requested fruit trees and six families wanted muscadine grapes. They were informed of the growing seasons and were told this would take place in January of the following year. The canning class interest led into a workshop training topics surrounding care for fruit trees and vine fruit.

The word spread so quickly that I've gotten phone calls from families in other states inquiring how they can create a similar program within their community. I attribute this increased visibility to Facebook expansion, word of mouth, and speaking at a local and national conferences. I could not have imagined the recognition that this project has gained.

I do not believe in reinventing the wheel, so I learned to look at other thriving community-driven programs and pulled together things that were appropriate for my community. In the recesses of my mind, I stayed hopeful that the community gains would outweigh the challenges of our regional struggles. Education and information was the missing piece to empowering this community. Participants became more conscious of their selections and portions and consumptions and in the end made healthier food choices.

I was taken back to my childhood while working in my community. I'm glad to say that we saw a great deal of camaraderie, a lot of working together.

This reminds me that the food we eat determines how healthy we are; yet the food available to us may do more harm than good; both to our health, to the health of the land and oceans that provide it. As individual consumers, we make decisions every day about the food we buy, which gives us great power to reshape the way we produce, process, transport, and use food. The Healthy and Sustainable Food program informs consumers and institutions about how our choices for diet and menus can promote healthier people, more secure food supplies, and thriving

communities.

### *Dissemination*

I have been privileged to present and speak at different conferences across the state of Mississippi as it pertains to my work. I have presented at the University of Mississippi and I've done presentations at Southern Mississippi relating to health, the body systems and food. I also presented at the RDLN Assembly in Piney Woods, Mississippi. I was on a talk show called Delta Renaissance where I was able to talk about my RDLN project in the Mississippi Delta. The impact of our work has also been presented in newsletters created by us and articles by journalists in the newspaper. We've been interviewed by various organizations and graduate students from Ole Miss and Mississippi State as well as other colleges and universities across the country.

I have been asked to lead a health wellness program at the congregation where I worship. We are working with food and fitness to improve health and wellness in our congregation. I have had many interviews concerning my RDLN project from university graduate students who are working on their theses.

*Appendix*

*Appendix A. Dorothy Grady-Scarborough Bio*

I am a nurse who works in an emergency room and operating room, but I have also been a proactive nurse working in Coahoma District Elementary School and North Bolivar School District, changing lives while they are young. After all we are what we eat. I am also a farmer. I have a vision of combining food and wellness by involving young people in learning about food and nutrition through active participation in growing food. I formed a nonprofit called Mississippians Engaged in Greener Agriculture (MEGA) and have led pilot sessions on my land. Our site has been designated a rural learning center as part of the program of Growing Power. I spend much of my time spreading the good word, consulting with churches and youth groups, and building regional networks.

It's all part of my grand plan to share my passion and vision for healthy community. While it's true that I have the Southern gift of graceful persuasion and genuine friendship, there's also something else at play here: a profound sense of outreach inherent in the concept of community-based agriculture. Many hands are needed to produce food from the earth, from the labor to the distribution. It's too much work to cultivate, plant, tend, harvest and cook food alone. Just ask any grower who has had the awe-inspiring experience of harvesting mid-summer bushels of beans and multiple baskets of tomatoes. You can't possibly eat it all alone.

I have been working closely with Ryan Betz to provide resources and technical know-how to congregations and schools who want to start their own gardens. They've organized more than 12 churches and are adding more all the time. Many give their produce to their congregational members for free in return for these members volunteering in the fields.

My demonstration farm in Shelby, MS (the heart of the Delta) is the center post of a collective called MEGA (Mississippians Engaging in Greener Agriculture). I make it my business to teach and encourage farmers, congregations, youth groups, and backyard gardeners to grow their crops without chemicals. That is, when I'm not working as a nurse at a local hospital; building a Delta-wide food system that will provide fresh, healthy food for all; tending to my husband, 5 kids, 11 grandchildren and 4 great grandchildren; getting a master's degree through RDLN and Antioch University Midwest in Rural Development in Health Wellness with Food and Fitness; consulting for local community gardens; running trainings and demonstrations on my farm; or traveling across the country to conferences and meetings for all the groups - of which I'm a part.

In helping MEGA achieve its mission, I also recognized] the need to educate the community on the many health disparities within low-income communities mostly due to poor diet. The Lake Street Farm Agriculture Demonstration Training Center was developed as a means to educate the community on the importance of consuming fresh produce, livestock, and other goods. Its primary goal is to improve access to healthy foods and to develop opportunities for economic development through farming. The Center not only focuses on health issues, but also focuses on training and demonstration for returning and emerging African American farmers to use sustainable production and stewardship methods. The Center also has a special focus on developing youth and newcomers who are interested in farming.

My passion and desire to aid my community professionally through nursing and medicine started about thirty years ago, but my passion and desire to aid my community through health education and agriculture was rooted in my childhood. I am Registered Nurse by training, and is a farmer by love. I can credit my interest in agriculture to my upbringing on a farm in the MS Delta. My parents nurtured an appreciation and interest in growing fresh foods; something that has been with me my entire life.

I have always been active in the community, in one capacity or another, but I found my efforts in agriculture and educating most rewarding. Over the past seventeen years, I have acquired resources and skills to better my community and I recognize that further networking and affiliations with other organization will only increase my horizons. I opened a food pantry that assists 350 families per month with food to end hunger.

Not only have I co-founded organizations, directed, operated, and coordinated groups and consortiums, I have also spoken on many issues related to small farming. I am able and willing to represent small farmers while learning and absorbing knowledge about larger farmers. As a small farmer myself, I have had the privilege of knowing both sides of farming outreach. I can contribute my knowledge and leadership through both experience and aspiration.

*Appendix B. BMI Participants Information Data Sheet*

Total number initiated-34

Total Number completed-23

# Of Boys - 14

# of Girls - 9

# Age 10 -2

# Age 10-2

# Age 11-3

# Age 11-0

# Age 12 -4

# Age 12- 3

# Age 13 -6

# Age 13-1

# Age 14 - 2

# Age 14-2

# Age 15- 5

# Age 15-0

# Age 16- 1

# Age 16-1

## Facilitator Additional Notes

The purpose of this project was to create a healthier generation by teaching young people about food choices, why they are important, what are the benefits of food for body organs, and how to grow food such as small livestock, fruits and vegetables.

When we did BMI's initially, they ranged from 19-38 with a mean of 27. The changes in nine months where improvements were noted were from three factors: the youth grew taller, they increased their physical activity, and they changed their diets. They are now making better food choices and are aware of portion sizes. Activities that the youth participate in are as follows: working garden plot, taking cooking classes with other youth and some of the parents, and using their membership in a fitness center and bikers club two-three times a week.

When the next BMI's were done, nine months into the project, the range was 21-35 with a mean of 28.

### *Appendix C. Cooking Class Handouts*

**This is an example of the type training/cooking/canning classes that are on held on Monday nights**

#### **Why is it important to eat fruit?**

Eating fruit provides health benefits — people who eat more fruits and vegetables as part of an overall healthy diet are likely to have a reduced risk of some chronic diseases. Fruits provide nutrients vital for health and maintenance of your body.

#### **Nutrients**



- Most fruits are naturally low in fat, sodium, and calories. None have cholesterol.
- Fruits are sources of many essential nutrients that are under consumed, including potassium, dietary fiber, vitamin C, and foliate (folic acid).
- Diets rich in potassium may help to maintain healthy blood pressure. Fruit sources of potassium include bananas, prunes and prune juice, dried peaches and apricots, cantaloupe, honeydew melon, and orange juice.
- Dietary fiber from fruits, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower risk of heart disease. Fiber is important for proper bowel function. It helps reduce constipation and diverticulosis. Fiber-containing foods such as fruits helps provide a feeling of fullness with fewer calories. Whole or cut-up fruits are sources of dietary fiber; fruit juices contain little or no fiber.
- Vitamin C is important for growth and repair of all body tissues, helps heal cuts and wounds, and keeps teeth and gums healthy.
- Folate (folic acid) helps the body form red blood cells. Women of childbearing age who may become pregnant should consume adequate foliate from foods, and in addition 400 mcg of synthetic folic acid from fortified foods or supplements. This reduces the risk of neural tube defects, spina bifida, and anencephaly during fetal development.

### **Health benefits**

- Eating a diet rich in vegetables and fruits as part of an overall healthy diet may reduce risk for heart disease, including heart attack and stroke.
- Eating a diet rich in some vegetables and fruits as part of an overall healthy diet may protect against certain types of cancers.
- Diets rich in foods containing fiber, such as some vegetables and fruits, may reduce the risk of heart disease, obesity, and type 2 diabetes.
- Eating vegetables and fruits rich in potassium as part of an overall healthy diet may lower blood pressure, and may also reduce the risk of developing kidney stones and help to decrease bone loss.
- Eating foods such as fruits that are lower in calories per cup instead of some other higher-calorie food may be useful in helping to lower calorie intake.

### **Why is it important to eat vegetables?**

Eating vegetables provides health benefits – people who eat more vegetables and fruits as part of an overall [healthy diet](#) are likely to have a reduced risk of some chronic diseases. Vegetables provide nutrients vital for health and maintenance of your body.

## Nutrients



- Most vegetables are naturally low in fat and calories. None have cholesterol. (Sauces or seasonings may add fat, calories, and/or cholesterol.)
- Vegetables are important sources of many nutrients, including potassium, dietary fiber, foliate (folic acid), vitamin A, and vitamin C.
- Diets rich in potassium may help to maintain healthy blood pressure. Vegetable sources of potassium include sweet potatoes, white potatoes, white beans, tomato products (paste, sauce, and juice), beet greens, soybeans, lima beans, spinach, lentils, and kidney beans.
- Dietary fiber from vegetables, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower risk of heart disease. Fiber is important for proper bowel function. It helps reduce constipation and diverticulosis. Fiber-containing foods such as vegetables help provide a feeling of fullness with fewer calories.
- Folate (folic acid) helps the body form red blood cells. Women of childbearing age who may become pregnant should consume adequate foliate from foods, and in addition 400 mcg of synthetic folic acid from fortified foods or supplements. This reduces the risk of neural tube defects, spina bifida, and anencephaly during fetal development.
- Vitamin A keeps eyes and skin healthy and helps to protect against infections.
- Vitamin C helps heal cuts and wounds and keeps teeth and gums healthy. Vitamin C aids in iron absorption.

## Health benefits

- Eating a diet rich in vegetables and fruits as part of an overall [healthy diet](#) may reduce risk for heart disease, including heart attack and stroke.
- Eating a diet rich in some vegetables and fruits as part of an overall healthy diet may protect against certain types of cancers.
- Diets rich in foods containing fiber, such as some vegetables and fruits, may reduce the risk of heart disease, obesity, and type II diabetes.
- Eating vegetables and fruits rich in potassium as part of an overall healthy diet may lower blood pressure, and may also reduce the risk of developing kidney stones and help to

decrease bone loss.

- Eating foods such as vegetables that are lower in calories per cup instead of some other higher-calorie food may be useful in helping to lower calorie intake.

### **These are some of the responses from participants**

“Your trainings are a joy! I've lost almost 15 pounds! Wowza! I love your sessions. I learned all about portion sizes and my dietary needs! I now eat more whole grains and whole fruits, and I have my three kids eating right too! Thank you so much for the work you do.”

“I finally understand how to control my portion sizes and eat a lot of fruits and veggies. I went from an 18 to 14 in pant size and I continue to eat healthy. I was a bad diabetic with several health issues but once I started walking and eating healthy, my life definitely changed for the better.”

“Eating a balanced diet that includes all the food groups has helped me maintain a healthy life. Fresh fruits and vegetables have made my life better.”

“I feel much better I have more energy, my skin is clearer and my digestive system is now regular. I think people across Mississippi should get this information, because we need it to improve our health.”

*Appendix D. Certificate of Completion Beginner Farmers & Rancher Program*



*Appendix E. Compost Lab*

Subject: Science Season: Winter, Spring, Summer, Fall Place of Learning:

Garden Resource Type: Lessons

Grade Level: middle school grade

Program Affiliations: The Edible Landscape

In this middle school grade science class, students learn how to build a compost pile, learn about organisms needed for decomposition, and begin to understand the purpose of compost in the garden. Objectives

After this lesson, students will be able to:

Explain the different layers in a compost pile Identify the essential organisms in a compost pile

Explain the process of decomposition

Explain the importance of compost

**Assessments**

During this lesson, students will:

Discuss and label the necessary components of the compost pile (browns, greens, food scraps, manure, water and air) using the Compost Cake visual aid

Discuss the essential organisms required for decomposition (fungus, bacteria, and invertebrates) and explain that each is critical to the speed of decomposition

Identify and discuss compost at several different stages on Compost Row, from food scraps to fertile soil

Discuss that composting speeds up decomposition, reduces waste, and replenishes soil

**Materials**

Compost pile or Compost Row [3] (several piles of compost at different stages of decomposition)

Compost Cake visual aid [4]

Compost Cake ingredient cards with Velcro backing File folder labeled “Top Secret” with images [5] of the FBI inside Thermometer

**Compost Lab**

Bucket of sifted compost

Before you Begin build a compost pile (Compost Row [3])

Gather materials for your greens layer, browns layer, and food scraps into small piles near your compost, as examples of the different ingredients Insert a thermometer into the hot pile Create the Compost Cake visual aid [4]

Create the Compost Cake ingredient cards Create the FBI images [5]

and their “Top Secret” folder

## Procedures

### Opening Circle

Welcome students and introduce the compost lab. Invite them to share what they think they know about compost. By a show of raised hands, ask students: “who has heard of decomposition?” Ask for a volunteer to define the term.

Explain there are three main categories of organisms responsible for decomposition and that we use the acronym FBI to remember who they are: fungus, bacteria, and invertebrates. Prompt students to think about why we might build compost piles in the garden when decomposition is occurring all around us all the time. Explain to students that composting speeds up decomposition, reduces waste, and replenishes soil. Ask students to be prepared to share either one thing they learned during the compost lab, or a question they have about compost when they return for Closing Circle. Divide students into working groups. In your small group, ask students to share one question they have about compost before participating in the lab.

### At Compost Station

- Review with students what decomposition means, and what decomposers are (FBI).
- Explain that Decomposers, like all living organisms, have three main needs for survival: food, water, and air. When building our compost piles, we are creating an environment suitable for the FBI by providing food, water, and air.
- Show students the Compost Cake visual aid and explain that building a compost pile is similar to building a layer cake.
- Show students the Compost Cake ingredient cards, and invite them to identify each one as they arrange the cards on the visual aid: C is for Carbon (“the browns:” sticks, woodchips, hay, straw), N is for Nitrogen (“the greens:” living plant matter like leaves and grasses), M is for Manure (horse, duck, chicken manure, which are rich in microorganisms), N is for Nitrogen (this time from food scraps).
- Open the “Top Secret” file folder and have students identify the FBI while looking at image of each.
- Explain that each ingredient provides food, air, or water for the FBI.

- Direct students' attention to the thermometer in the compost pile. Take guesses from students on how hot the compost pile gets and why it heats up. Have students read the thermometer and explain that decomposition happens the fastest when compost is at the ideal temperature of 130-160 degrees Fahrenheit.
- Take guesses for what causes the heat. Draw an analogy between a middle school dance with a hundred students moving around in one room, and the FBI in the compost pile. Individually, we hardly notice our own body heat, but when we are all together eating, digesting, and moving around, our heat is noticeable and the room heats up. Explain that the billions of active bacteria give off heat while they decompose the pile.
- Show students the progression of the compost piles from start to finish with a walk down Compost Row.
- After showing all the stages of decomposition, demonstrate the sifting process. Take a handful of soil and explain that there are billions of bacteria in each handful.
- Invite students to hold finished compost in their own hands. Explain that the components of this pile have been decomposed and changed into living soil.
- Ask students to identify what happens to crops before and after being composted (they are eaten as food, with the remaining scraps composted, and after the composting process are used to nourish other plants that are on their way to becoming food). Point out that that the same nutrients are recycled through this process to feed humans and other animals, the FBI, and plants.

### **At the Closing Circle**

Remind students to think about one thing they learned about compost or a question they have about compost. Facilitate a Think Pair Share discussing either one thing they learned or a question they have about compost.

*Appendix F. Youth Agriculture Flyer*

## Youth Agriculture Day



**Thursday, December 4<sup>th</sup>, 2014**

**Time: 9:00 AM – 1:00 PM**

**8:30 – 9:00 AM Registration**

**Location: MEGA Site 1505 Broadway Street Shelby, MS 38774**

**Activities: Animal Husbandry, On-Site cooking with Chef Nick Wallace,  
Composting construction, and Extension 4H**



*Appendix G. Canning Class Flyer*

You can enjoy preserved fresh  
vegetable & fruit during the off  
season...



## Join MEGA for...

**What:** Canning Class

**Where:** 1503 Broadway Shelby, MS

**When:** November 1, 2014 at 10:00 am until 1:00 pm

For More Information Contact Dorothy at (662)-402-4798

*Learn all you need to know about canning, freezing, and  
drying fruit & vegetables.*

In partnership with



DELTA STATE  
UNIVERSITY  
Join In. Stand out.