Farm to School

in

Mecklenburg County, North Carolina

Prepared for:
Mecklenburg County Health Department and Charlotte-Mecklenburg Schools

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“Local” is an ambiguous word, taking on several different meanings. For the sake of this report and the geographic location of Mecklenburg County, the term “local” will refer to products grown or raised within either North or South Carolina.
What do you think of when you think of school lunch? When I think of school lunches, I think back to my days in high school and elementary. I picture canned carrots that are a dull orange-brown color, salty, mushy, and not resembling the original vegetable itself. If you were like me as a child, those carrots were pushed around the plate, with most of them ending up in the trash. What if we could offer today’s youth fresh, locally grown carrots, that are vibrant in color, crunchy in texture, and exploding with taste? Better yet, what if we taught our youth how carrots grow and even have them grow them themselves?

In the slot next to the carrots was the fruit cocktail, which came from a can, drowning in sugary syrup. Again the texture was mushy and the color was dull. Since all I could essentially taste was the sugar, I ate some of it. What if we could offer fresh, local, juicy strawberries not drowning in some mystery syrup but popping in taste, color, and texture to today’s youth? Better yet, what if we took the youth to the farm where they were grown and they could eat one right off the strawberry plant?

Next on the tray were the highly processed chicken tenders, every child’s favorite. Simple enough for the cafeteria staff to toss the frozen chicken tenders on a baking sheet and put in the oven, never questioning where or how the chicken was raised or even what part of the chicken the “nugget” came from. The texture was spongy, but dipped in ketchup they had sufficed. What if we could offer today’s youth chicken tenders that were prepared from scratch and not heavily processed, but made with chicken raised right here in the Carolinas? What if we took them to the farm where the chicken was raised?

I would then finish up my meal with a slice of white buttered bread and chocolate milk, toss out my trash, and head back to class to finish up the school day, hoping that what I actually consumed of my lunch would fill me up so I wasn’t starving by the time school ended, enabling me to adequately focus and concentrate in my classes.

Growing up, I was never excited about what was being offered in the school cafeteria nor did I care where the food came from. What if we could connect today’s youth with their food and get them excited and involved with what’s on their plate?

I grew up in the midst of the ever increasing childhood obesity rates during the 1990s, being no exception to the epidemic myself. Through the course of my education, I have observed firsthand the detrimental effects that obesity has on health and the greater community as a whole. I have developed the knowledge and skills necessary to help people lead healthier lives, which are embodied in Farm to School concepts.

If you are like me and find yourself asking “what if?”, then this report will help answer these questions and will also outline where Charlotte-Mecklenburg Schools (CMS) currently stands in Farm to School efforts and address the barriers that are encountered. It is my hope that this report will inspire a community wide movement to bring those
“what if?” dreams to life not only for the health of today’s youth, but for the benefit of the community as a whole.

Beth Mack, MPH, RD
EXECUTIVE SUMMARY

Farm to School programs are an emerging trend employed to address childhood obesity. While Farm to School programs vary by location, they share a common vision, to increase the overall health of today’s youth. Despite differences in programs, Farm to School programs focus on serving healthy meals in school cafeterias, improving student nutrition, providing agriculture, health and nutrition education opportunities, and supporting local and regional food procurement. Proposed goals of a Farm to School program in Mecklenburg County include:

1. Increase students’ access, awareness, knowledge, and consumption of North Carolina and South Carolina grown or produced fresh fruits and vegetables and other minimally processed products (i.e. bread, dairy, meat).
2. Increase CMS procurement of locally grown or produced foods to be utilized in their food service operations to at least 10%.
3. Stimulate local economic growth through local food procurement and purchasing.
4. Develop regional collaboration to promote a cross-disciplinary, whole systems approach to local food procurement, Farm to School programming, and overall health.
5. Establish widespread community support for Farm to School initiatives.

Currently CMS has several initiatives that align with Farm to School concepts including: school gardens, Chefs Move to School program, Fresh Fruit & Vegetable Program (FFVP), as well as nutrition education and marketing. Barriers that CMS faces in instituting a Farm to School program include: cost, procurement, lack of awareness, culinary training of cafeteria staff, seasonality of local foods, youth’s unwillingness to try unfamiliar foods, and issues surrounding school gardens. Accounting for the existing barriers, below are the recommendations to establish a formal Farm to School program within CMS:

1. Create a full time Farm to School program Coordinator position to collaborate with CMS’ Child Nutrition Services (CNS) and other stakeholders to establish Farm to School initiatives and programming. This position would assist in the procurement of local foods, providing technical assistance to local farmers, the development and implementation of Farm to School programming, initiatives, and promotion within CMS and the broader community.
2. Identify and secure local items that could be featured on the CMS lunch menu on a regular basis.
3. Revise school menus and recipes to reflect the seasonality of local produce.
4. Establish a centralized refrigerated storage space for CMS to allow for the storage of fresh produce.
5. Develop and implement a “Local Lunch” Program that entails featuring a meal in which all items are produced locally once a month.
6. Develop a “Community Partners” program to complement Farm to School efforts to reverberate local food efforts into the wider community.
7. Foster stakeholder collaboration to develop a local food hub, which meets all food safety requirements, to provide the link between local farmers, food producers, food
processors, distributors, and buyers within the Charlotte region to shorten the distance between farm and fork.

8. Propose and/or support a bill to state legislators to appropriate money to incentivize the purchasing of local foods in schools by providing a percentage of reimbursement to schools for products that have been purchased locally.

9. Establish an urban or suburban schoolyard farm to provide additional experiential learning experiences for students.
FARM TO SCHOOL: INTRODUCTION

Farm to School programs are an emerging trend to address America’s childhood obesity epidemic. While Farm to School programs vary by location, they share a common vision. They seek to bridge the gap that exists between local and regional farmers, food processors, food distributors, and school cafeterias, whether it be preschools or K-12 schools. Despite differences in programs, goals of Farm to School programs include serving healthy meals in school cafeterias, improving student nutrition, providing agriculture, health and nutrition education opportunities, and supporting local and regional farmers.

Due to the variation in geographic location and communities, each Farm to School program takes on various forms, being shaped by its unique community and region. Recommended components of Farm to School programs include, incorporating local products into school meals and snacks, developing school gardens, implementing a food and gardening related curriculum into classrooms in conjunction with school gardens, and providing experiential learning opportunities through school gardens, farm tours, chefs in the classroom, culinary education, visits to farmers markets, etc. In addition, marketing and promotion of the program within the school is critical.

It has been found by many in the Farm to School community that for a program to be successful, it must not only make changes to the food that is served in the cafeteria but also by backing up those changes by connecting it to the classroom and community. Educational opportunities, marketing, and promotion should extend beyond the school environment to parents and the wider community.
Farm to School programs began emerging in 1996 and have increased rapidly to an estimated 2,000 programs nationwide as of 2009. Growth of Farm to School programs was enhanced by the passage of Section 4302 of Public Law 110-246, the Food, Conservation, and Energy Act of 2008, amended section 9(j) of the Richard N. Russell National School Lunch Act. The law allows institutions receiving funds through Child Nutrition Programs to apply an optional geographic preference in the procurement of unprocessed or locally grown or raised agricultural products. This provision applies to all operators of Child Nutrition Programs including the National School Lunch Program (NSLP), School Breakfast Program (SBP), Fresh Fruit and Vegetable Program (FFVP), Special Milk Program, Child and Adult Care Food Program (CACFP), Summer Food Service Program, as well as to purchases made for these programs by the Department of Defense Fresh Program (DOD Fresh).

Why Farm to School?

The benefits of a Farm to School program are vast, directly impacting not only the youth themselves, but the local economy as well. The most obvious benefactor of a Farm to School program is the students. Providing nutrition and agricultural education along with experiential learning opportunities not only improves knowledge and attitudes, but studies show that youth are more likely to consume fruits and vegetables, especially if they partake in the growing of them. With one of three youth being obese, starting a Farm to School program would be beneficial given the fact that increasing the consumption of fruits and vegetables is recommended as a way to prevent obesity and obesity related diseases. Growing fruits and vegetables not only teaches youth where their food comes from, but also about the environment as well. The National Gardening Association has found that gardening teaches youth academic, social, and life skills such as patience, team work, and responsibility; all while increasing their physical activity through gardening. In addition to providing access to seasonal, fresh, local, and minimally processed foods, the nutritional value of local fruits and vegetables is higher since it is harvested at its peak, when the nutrients have reached their full potential within the fruit or vegetable, and is then consumed within a few days. This is compared to fruits and vegetables needing to be transported long distances, usually harvested before they are ripe and manipulated to achieve the desired color, causing for a decline in their nutritional

Healthy Youth

Healthy Economy

Healthy Communities
value. In addition to the above mentioned benefits, it has been shown that gardening increases physical activity, which is another recommendation to prevent obesity and obesity related diseases.

The increased health is not the only benefit to students, but increased academic performance as well. Gardening concepts align directly with and tie in easily with Science, Technology, Engineering, and Mathematics (STEM) concepts. Alternative hands-on learning opportunities, such as what a school garden would offer, has shown to be more effective for learning then the traditional classroom.

Not only is Farm to School programming beneficial to youth, but to the environment as well. It is reported that the average meal in the U.S. travels 1,500 miles before it reaches your plate. Purchasing locally produced foods not only decreases the distance between producers and consumers, resulting in less fossil fuel utilization and decreased emissions of greenhouse gases, but also allows for farmers to grow varieties chosen for taste and not on what variety travels the best. Additionally, it helps to strengthen communities’ knowledge and attitudes toward agriculture, food, nutrition, and the environment.

The economic effects of a Farm to School program are important to note as well. When schools leverage the funds that they currently have available to substitute locally produced items for items that they had previously been buying out of state, it increases market opportunities for local farmers, fishers, ranchers, food processors, and food distributors. When farmers are able to reduce the length of the supply chain by selling locally, they receive a much greater share of retail prices. Schools provide a sustainable and reliable revenue stream for local producers that can help support economic development across numerous sectors and promote job creation. In addition to supporting local jobs and potentially increasing output in food producing and processing sectors, it may also create jobs in other sectors and increase output in the broader state economy.

Based on a pilot study of Farm to School programs in Oregon, it was found that every dollar that was spent on local foods for schools generates $1.86 in spending amongst suppliers and households. If CMS dedicated 10% of its current allotted fruit and vegetable budget towards the purchase of local fruits and vegetables, lunch alone would generate approximately $7 million dollars in revenue per school year for the local economy. Farm to School programs provide a win-win situation for today’s youth, the environment, and the economy.

*Based on 97,000 lunches served per day at $0.40 per meal for fruits and vegetables and 180 school days per year.
NORTH CAROLINA AGRICULTURE

North Carolina is one of the top agricultural states in the nation. Agriculture contributes $70 billion annually to the state’s economy and accounts for 18% of the state’s income. Of the 52,400 farms in North Carolina, 90.8% of farm operations are family or family incorporated farms, which grow over 80 different commodities. North Carolina ranks number one in the nation in sweet potato production and has held this ranking since 1971, supplying 40.8% of the nation’s sweet potatoes. Poultry and hog production puts North Carolina on the map, ranking 2nd in the nation. North Carolina ranks in the top ten in the nation for the production of the following agricultural products as well: strawberry, cucumber, green bell pepper, and apples. Other products that are abundant in North Carolina include: blueberries, cabbage, tomatoes, snap beans, squash, watermelon, grapes, sweet corn and peaches.

SOUTH CAROLINA AGRICULTURE

Agriculture plays a vital role in the economy of South Carolina as well, generating $2.4 billion in revenue in 2010. South Carolina ranks near the top nationally in several agricultural categories, bringing in over $150 million each year in fruit and vegetable production alone. Peach production ranks second in the nation, ahead of Georgia. South Carolina also ranks at or near the top nationally in the production of leafy greens such as collards, kale, turnips, and mustard greens. Other items such as tomatoes and watermelon consistently rank in the top ten each year in overall production. In addition to fruits and vegetables, poultry and cattle production consistently place in the top ten in the nation.

THE LOCAL FOOD MOVEMENT

The local food movement in North Carolina was amplified in 2005 with the beginning of the Got to Be NC marketing initiative, which is operated by the Goodness Grows in North Carolina program of the NCDA. South Carolina followed shortly after in 2006 with the South Carolina Department of Agriculture (SCDA) launching their marketing campaign, Certified SC Grown. In 2010 the Center for Environmental Farming Systems (CEFS) in collaboration with the North Carolina Cooperative Extension launched the North Carolina 10% Campaign. The campaign encourages North Carolinians to spend 10% of...
their food budget on foods grown or produced within the state, supporting the CEFS vision of building a sustainable local food economy.

Locally, there has been an emerging interest in locally produced foods, with an increase in the number of community gardens, farmers markets, Community Supported Agriculture programs (CSAs), and restaurants utilizing local foods in their operations, increasing the demand and expanding the market for locally produced foods within Charlotte and the surrounding area. One such restaurant, Harvest Moon Grille located in Uptown Charlotte, prides itself on being a farm to table restaurant, sourcing almost all of the food served within 100 miles of the restaurant, with 90% of the food being produced 60 miles from the restaurant. Since their opening in November of 2010, they have invested over $901,000 in locally produced foods with great success, setting the example that sourcing locally is not only possible, but profitable.

**NCDA & CS FARM TO SCHOOL PROGRAM**

The North Carolina Department of Agriculture & Consumer Services (NCDA & CS) Food Distribution and Marketing Divisions currently operates a statewide Farm to School program, open to all school districts within North Carolina. The program provides a variety of fruits and vegetables that are grown within the state, even offering some value added items. All farms that participate in the program are required to be Good Agricultural Practices (GAP) certified with $2 million in liability insurance, meeting the state instituted requirements.

The program handles all of the procurement from farmers in addition to developing promotional and educational materials for the schools. Using the program is free and there is no minimum order requirement; however, the produce is only delivered to one site within the school district designated by the district’s Child Nutrition Services Director. Currently 85 school districts are enrolled in NCDA & CS Farm to School Program, including Wake County Public Schools, which is the school closest in size to CMS. During the 2011-2012 school year, the program grossed $1.2 million in sales, however, no data on the economic impact is currently available.
Goals of establishing a Farm to School program within Charlotte-Mecklenburg Schools are as follows:

1. Increase students' access, awareness, knowledge, and consumption of North Carolina and South Carolina grown or produced fresh fruits and vegetables and other minimally processed products (i.e. bread, dairy, meat).
2. Increase CMS procurement of locally grown or produced foods to be utilized in their food service operations to at least 10%.
3. Stimulate local economic growth through local food procurement and purchasing.
4. Develop regional collaboration to promote a cross-disciplinary, whole systems approach to local food procurement, Farm to School programming, and overall health.
5. Establish widespread community support for Farm to School initiatives.
As of the 2011-2012 school year, Charlotte-Mecklenburg Schools ranks as one of the 20 largest school districts in the nation and is the 2nd largest in the state with more than 138,012 youth in kindergarten through 12th grade, 159 schools, and 18,120 teachers, support staff, and administrators. Their Child Nutrition Services (CNS) staff serves approximately 30,000 breakfasts, 97,000 lunches, and 9,500 after-school snacks daily. Of all of the students, 53.4% of students qualify for the free and reduced price lunch program.

CNS’ current total food budget is approximately $24.5 million. The current price for breakfast for Pre-Kindergarten students is $1.00 and $1.80 for lunch. For all other students, the price for breakfast is $1.25 and $2.05 for lunch.

It costs approximately $3.11 to produce each meal, with $1.25 being food costs. Of the $1.25 spent on food per meal, $0.26 is spent on milk, $0.15-$0.25 is spent on each fruit and vegetable serving, $0.15 is spent on whole grains, and the remaining is spent on the entrée. During the 2011-2012 school year, students were able to select up to two fruits or vegetables with lunch. Starting school year 2012-2013, students will be able to choose up to four fruits and/or vegetables with lunch and will be required to take at least one serving of fruit and vegetable. To offset these new regulations, reimbursement from the USDA will increase by $0.06 per meal starting in October and CNS will increase its food cost budget. At this time the amount that CNS will increase its food budget is unknown.

$1.25 Lunch Breakdown 2011-2012

- Milk: 32%
- Fruit & Vegetable: 35%
- Entrée: 21%
- Whole Grain: 12%

Based on $0.20 per serving of each fruit or vegetable
PROCUREMENT: Since CMS is a public school system participating in the National School Lunch and the National School Breakfast Program, from which they receive federal funding, certain regulations apply to purchasing foods and services. If a purchase is $90,000 or more, a formal bid process is required to provide free and open competition, to ensure that the best and most responsive product at the lowest possible price is purchased. For purchases less than $90,000, quotes must be obtained from perspective vendors. CMS currently accepts three separate bids, one for groceries, snacks, and produce. All contracts are awarded annually and run from August 1 to July 30. US Foods won all three contracts for school year 2011-2012.

CURRENT PROCUREMENT: Currently CMS has a contract in place with US Foods to purchase food items. Grocery, supplies, and perishable items are delivered directly to each CMS school by US Foods. Commodity items are shipped to and stored at CMS’ centralized warehouse, where there is frozen and dry storage. From there, those items are stored and eventually transported to each school through the use of delivery trucks that CMS owns and operates. CMS currently follows NC General Statute .2600 for its food safety and sanitation, but will be switching this fall to the Federal Food Code issued by the FDA.

CURRENT FRESH PRODUCE: As of the 2011-2012 school year, below is a comprehensive list of fresh produce that CMS purchased from US Foods: (*Denotes produce that is sourced locally)

- Apples
- Baby carrots
- Baking potatoes
- Bananas
- Broccoli florets
- Canned tomatoes
- Cantaloupe
- Carrot sticks
- Celery stalks
- Celery sticks
- Cucumbers
- Fresh Broccoli
- Fresh pears
- Fresh Tomatoes
- Grapes, White and Red
- Green cabbage*
- Green bell pepper*
- Green leaf lettuce
- Kale*
- Kiwi
- Lemons
- Lettuce, cleaned and trimmed
- Pre-Packaged baby carrots
- Oranges
- Radishes
- Salad Mix (Romaine/Iceberg 50/50)
- Seedless watermelon
- Shredded carrots
- Shredded iceberg lettuce
- Slaw, diced red cabbage and carrots
- Spinach*
CURRENT CMS FARM TO SCHOOL INITIATIVES

1. **Current Percentage of Local Foods:** The current total percentage of local foods that CMS uses is unknown at this time. Upon contact with CMS’ food vendor, US Foods, it was stated that it was impossible to figure out because the stock of produce moves continually due to seasonality within different regions of the United States. For example, apples are only in season in North Carolina in the fall. Since apples are offered on a year round basis, apples outside of the fall will come from various places outside of the Carolinas. US Foods does have a branch, Cross Valley Farms, in which one can order fresh produce grown within the Carolinas. For school year 2011-2012, CMS purchased approximately $5,220 in local foods from US Foods’ Cross Valley Farms. In addition, CMS purchased approximately $60,000 worth of barbecue from Chandler Foods in Greensboro, North Carolina, which sources locally. Given this information, at least $65,220 is spent annually on local products equating to approximately 0.3% of CNS’ yearly food budget of $24.5 million.

2. **School Gardens:** There are currently 41 schools within the CMS school system with known school gardens on the premises. However, no census has ever been conducted to determine the actual number of gardens. Organizations within Mecklenburg County, such as Friendship Gardens, Communities in Schools, and the Catawba River District Project, are already working with schools within CMS to help establish and maintain school gardens.

   Additionally, there is the Field to Fork Program, which is a 6 month partnership with Mecklenburg County Fruit & Vegetable Coalition, Charlotte Green, Fuel Pizza, and CMS where elementary students learn about gardening, nutrition, and healthy cooking. The Field to Fork Program includes: gardening experiences, class education on both nutrition and gardening, as well as a class field trip to a local Fuel Pizza, where students learn how to transform the produce they have grown into homemade vegetable pizza. If schools that do not have gardens are accepted into the program, a pizza garden is constructed for them at the school. The program was established in 2010 and has been implemented in 27 schools as of school year 2011-2012.

3. **Chefs Move to School:** The Chefs Move to School program is an initiative endorsed by the Let’s Move! Initiative, which aims to connect chefs with schools in their communities to create healthy meals, while teaching youth about nutrition and making healthy choices. Additionally, it seeks to bring excitement and training to school food service. CMS adopted this initiative in January of 2012 and currently has 15 area chefs participating in the program, which utilizes a nutrition curriculum centered on fruits and vegetables.

4. **Fresh Fruit & Vegetable Program:** The Fresh Fruit and Vegetable Program is a Federal program operated by the USDA and FNS. In this program, money is given to elementary schools with a high percentage of students certified for free and reduced price benefits to allow for the purchase of fresh fruits and vegetables, in which institutions can specify a geographic preference. Fresh produce is then
served separately from breakfast and lunch, being made available to all enrolled students for free. There is one school in the CMS system that is currently enrolled in the FFVP program; however, the program will not continue for the 2012-2013 school year due to the cited labor intensive application process and monthly paperwork. An additional concern with this program was that it did not let all schools that were interested in the program participate. However, CMS is planning to provide a unique version of the program on their own with Child Nutrition funds as well as other grant funding. This program will expand access of fresh fruits and vegetables to at least 12 CMS schools that otherwise may not have met the criteria set forth by the FFVP.

5. **Nutrition Information:** Currently nutrition information is offered on CNS' webpage through their “Nutrition Fact of the Month” tab and through their monthly menus.

6. **Culinary Arts Classes:** Some, but not all, of high schools within CMS offer a course in Culinary Arts, teaching students basic culinary skills.
BARRIERS:

Interest in and support for Farm to School programs is at an all-time high, however, there are significant challenges to implementation of such a program. Challenges on behalf of food producers range from lack of knowledge and information on how to connect with potential buyers to inadequate distribution channels. In addition, school districts that wish to serve more local foods may encounter infrastructural, regulatory, and economic barriers to participation. Outlined below are the specific barriers to CMS and local food suppliers. Seven barriers have been identified which include: cost, procurement, lack of awareness, culinary training of kitchen staff, seasonality of local foods, youth’s unwillingness to try unfamiliar foods, and management of school gardens. This section will explore these barriers and outline potential solutions.

COST:

- **FOOD**: A common cited barrier to obtaining local foods is that they cost more than ones obtained from a food distributor. CMS cites this as a prohibitive barrier from utilizing the NCDA & CS’ Farm to School Program. Upon analysis, this holds true for only some produce items. When utilizing NCDA & CS’ Farm to School program, products are dropped off only at one site within the district, unlike US Foods, which drops the produce off at each school. CNS has explored the option of having obtaining fresh produce from the NCDA & CS Farm to School program and having US Foods receive and deliver it to each school for them, but US Foods would charge an additional flat fee of $2.59 per unit.

<table>
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<tr>
<th>Product</th>
<th>US Foods Unit Price</th>
<th>NCDA Farm to School Unit Price</th>
<th>Price Difference per Unit of using US Foods</th>
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<tbody>
<tr>
<td>Apples</td>
<td>$23.95</td>
<td>$24.50-$26.50</td>
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<tr>
<td>Tomatoes</td>
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</tr>
<tr>
<td>Strawberries</td>
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</tbody>
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*Prices based on 2011-2012 School Year

** In cases where units were not consistent, prices were adjusted to reflect the same unit size

*** US Foods has a flat fixed fee of $1.09 per case, which is not reflected in the prices shown above

- **GOOD AGRICULTURAL PRACTICES (GAP) OR GOOD HANDLING PRACTICES CERTIFICATION (GHP)**: The state of North Carolina Department of Public Instruction-Child Nutrition Services currently mandates that all fresh produce sold directly to the schools must come from a GAP certified farm, which is recommended, but not mandated by the USDA, or a distribution facility that is Good Handling Practices (GHP) certified. Typically, farmers conduct a self-evaluation form to evaluate the farm’s current production process and to
provide assistance on how to meet GAP guidelines. After any necessary changes have been made, the third-party certifying agency then completes an audit to certify the farm, which needs to be completed annually. To cost of becoming GAP certified varies depending on the scale of changes the farm needs to make to meets the GAP regulations and the size of the farm itself. Fees are incurred for the amount of time it takes the third-party certifying agency to travel to and from the farm and the time it takes to audit the farm. In addition, for each product the farm is certified for there is an additional fee.

One of the most commonly used third-party agency in North Carolina, the USDA, has a partnership with the NCDA & CS to offer GAP audits within North Carolina, with branches in Winston-Salem and Asheville. They charge an hourly rate of $92, which includes travel to and from the farm, the time it takes to audit the farm, and time required to complete the necessary preparatory work. If a farm passes, there is a $50 web administration fee per item that they are GAP certified for. Given the fact that it takes approximately four hours to audit an average size farm, it would cost the farmer more than $418 annually just to have one crop GAP certified.14

Currently, the NCDA & CS offers a cost share program for North Carolina farmers offering $600 to help shoulder the cost of conducting a third-party audit for first time users and $300 for those who have previously participated in the program. However, this program is on a first come first serve basis until funds are depleted and reimbursement is only available for an approved list of third party agencies. See Appendix two for a list of approved certifying agencies.

At this time there are currently 49 farms in North Carolina and 12 farms in South Carolina, which are GAP/GHP Certified by the USDA. A list of these farms can be found at: http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateD&page=FreshFVGAPGHPStateIndex. See Appendix three for a map of farms and distribution centers within North and South Carolina that are GAP/GHP certified by the USDA.

- **FOOD PREPARATION:** Another common barrier cited when obtaining foods directly from farms is that the product is not typically in a ready-to-use form, requiring increased labor of cafeteria staff to get the product into a ready-to-use form and the necessary processing equipment. Some regions have processing centers where local agricultural products can be made into readily usable forms and then distributed to schools. However, there is currently no such facility in or around the Charlotte area. In addition, CMS CNS does not handle any raw meat; all meat they receive is already cooked to eliminate potential food safety risks found in handling raw meat.

- **STORAGE:** CMS does have a centralized warehouse with the capabilities to store shelf stable items and frozen items, however space is limited so an
attempt is made to keep inventory low. At the centralized warehouse, they do not accept fresh produce because of the absence of refrigerated storage. In addition, expansion of the current centralized warehouse is not an option due to a variance prohibiting an addition to the current structure.

Solutions:

i. Foster stakeholder collaboration to develop a local food hub, which meets all food safety requirements, to provide the link between local farmers, food producers, food processors, distributors, and buyers within the Charlotte region to shorten the distance between farm and fork. In addition, this facility could offer value added items and provide delivery to each school within CMS.

ii. Propose and/or support a bill to state legislators to appropriate money to incentivize the purchasing of local foods in schools by providing a percentage of reimbursement to schools for products that have been purchased locally.

iii. Encourage and provide assistance to local farmers to become GAP certified, utilizing the NCDA & CS cost share program and other applicable grants.

iv. Establish a centralized refrigerated storage space for CMS to allow for the storage of fresh produce.

PROCUREMENT:

- **TIME CONSTRAINTS**: CMS currently employs three people to procure all of the food and a full-time Registered Dietitian plans all of the menus. The Child Nutrition administrative staff oversees the child nutrition service program across all CMS schools to ensure that all of the requirements set forth by both the USDA and Environmental Health Services are met. Currently US Foods holds the contract for all three CMS CNS bids. While it is not a requirement of the bid for one vendor to hold all three bids, it is convenient. The addition of dealing with other food distributors and the necessary paperwork would require additional time and commitment on behalf of CMS’ CNS.

- **REQUEST FOR PROPOSALS (RFPS)**: For purchases over $90,000 CMS must send out a RFP for the particular item that they want to purchase detailing the quantity and other desired attributes. Local farmers would then be able to submit a RFP given that they are GAP certified; however, not all farmers know how to submit an RFP or where to find it.

- **DISTRIBUTION**: Currently CMS has its own fleet of trucks to transport supplies from its central warehouse to all schools, while US Foods distributes all shelf stable foods, frozen foods, fresh produce, and other perishable items to each school. Under current conditions, food distributors and local farmers typically only deliver food items to one location within a school district. Given the fact that CMS’ centralized warehouse could not store products that require refrigeration, this is not a viable option.
**Solutions:**

i. Provide training to farmers on how to successfully identify and submit RFPs.

ii. Create a full time Farm to School Program Coordinator position to collaborate with CMS' CNS and other stakeholders to establish Farm to School initiatives and programming.

iii. Foster stakeholder collaboration to develop a local food hub, which meets all food safety requirements, to provide the link between local farmers, food producers, food processors, distributors, and buyers within the Charlotte region to shorten the distance between farm and fork. Within this structure, distribution of food items could be tailored to the needs of CMS.

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**LACK OF AWARENESS:**

- **POTENTIAL VENDORS AND PRODUCTS THEY OFFER:** There are hundreds of farms in North and South Carolina; however, only 61 meet the GAP requirements to be able to sell fresh produce to schools. Currently, there is no comprehensive list of all the farms that are GAP certified, but only those that have been certified by the USDA.

- **WITHIN THE COMMUNITY:** Many people within Charlotte and Mecklenburg County are lacking in awareness of the benefits that using local foods provide to the local economy, the environment, and their health. Community support and awareness of Farm to School is vital to the program’s success.

**Solution:**

i. Create a list of produce that CMS currently uses that could be sourced locally and identify local farms or distribution businesses, that meet food safety requirements.

ii. Identify and secure local items that could be featured on the lunch menu on a regular basis.

iii. Foster stakeholder collaboration to develop a local food hub, which meets all food safety requirements, to provide the link between local farmers, food producers, food processors, distributors, and buyers within the Charlotte region to shorten the distance between farm and fork.

iv. Develop a “Community Partner” program to complement Farm to School efforts to reverberate local food efforts into the wider community.

v. Develop and implement a visually appealing marketing campaign targeted to youth and their families.

vi. Host a Farm to School program kick-off and media event at the beginning of the Farm to School programming efforts to celebrate and garner widespread community support.

vii. Collaborate with stakeholders in the local food movement to help promote and garner support for the Farm to School program and local foods in general.
CULINARY TRAINING OF CAFETERIA STAFF:

All cafeteria staff receives Hazard Analysis and Critical Control Points (HACCP) food safety training with all managers being ServSafe certified in food safety and sanitation. In addition, all new cafeteria staff and managers receive training on basic kitchen skills. Currently, out of a staff of approximately 1,400, 20 cafeteria staff possesses culinary degrees. However, since a large majority of local foods are currently only available in raw forms, this may limit the potential use of local products.

 Solutions:

i. Collaborate with stakeholders to develop and arrange for more intensive culinary trainings for CMS cafeteria staff.

ii. Foster stakeholder collaboration to develop a local food hub, which is GAP/GHP certified, to provide the link between local farmers, food producers, food processors, distributors, and buyers within the Charlotte region to shorten the distance between farm and fork.

SEASONALITY OF LOCAL FOODS:

Typically, CMS schools are in session from late August to early June, which does not coincide with the peak harvest season of some of the most commonly consumed fruits and vegetables. However, there are four growing seasons in North Carolina, Spring, Summer, Fall, and Winter, in which produce is grown year round. In addition, some crops such as apples and fall squash can be stored under proper conditions for months at a time. In terms of local meat and dairy products, seasonality is not an issue.

 Solutions:

i. Revise school menus and recipes to reflect the seasonality of local produce to increase the potential utilization of local produce.

ii. Expand CMS’ centralized warehouse to include refrigerated storage to allow for the storage of fresh produce.

iii. Foster stakeholder collaboration to develop a local food hub, which is GAP/GHP certified, to provide the link between local farmers, food producers, food processors, distributors, and buyers within the Charlotte region to shorten the distance between farm and fork.

YOUTH’S UNWILLINGNESS TO TRY UNFAMILIAR FOODS:

Many youth are apprehensive about trying unfamiliar foods such as fruits and vegetables, which could hurt the potential profitability and success of a Farm to School program. Student acceptability of a Farm to School program is critical not only to the success of the program, but to CNS as well.
Solution:

i. Develop classroom activities and/or a curriculum to support Farm to School concepts, such as nutrition, agriculture, culinary, and environmental sustainability.

ii. The following solutions have been shown to increase the likelihood that youth will eat.

iii. Conduct taste testing’s of unfamiliar foods with youth to familiarize youth with the item.

iv. Rejuvenate or establish school gardens to provide hands-on learning opportunities for youth.

v. Develop and implement a visually appealing marketing campaign targeted to youth and their families.

vi. Establish or recruit a current student group within CMS to receive student input, garner student support, and promote Farm to School initiatives among students within CMS.

MANAGEMENT OF SCHOOL GARDENS:

School gardens provide an excellent hands-on learning opportunity for youth of all ages; however, there are several barriers in effectively utilizing gardens as an education resource.

- **COST OF GARDEN:** While 41 CMS schools currently have established gardens on their campuses, starting and maintaining a garden will incur some fees for necessary materials. The cost of starting a garden varies depending upon the size of the garden and what materials the garden is constructed with.

- **GARDENING KNOWLEDGE:** Starting a school garden is of interest to many stakeholders, especially teachers. However, many of them do not know where to begin in establishing a garden and do not possess adequate gardening knowledge and techniques. In addition, teachers may not know how to incorporate gardening into curriculum.

- **GARDEN UPKEEP:** During the school year maintenance of the garden can easily be done by the students, their teachers, and volunteers; however gardens need to be maintained over the summer months when school is not in session to prevent the overgrowth of weeds and tend to any remaining plants.

- **CONSUMING ITEMS FROM THE GARDEN:** While gardens provide an excellent opportunity for youth to learn, consumption of the fruits and vegetables from the garden is central to all gardening curriculums. However, produce from the garden cannot be used in the cafeteria due to food safety regulations.

Solution:

i. Collaborate with Environmental Health Services to develop a protocol for establishing school gardens and consuming items from the garden.

ii. Collaborate with stakeholders to rejuvenate or establish school gardens.
iii. Provide awareness and assistance to schools in applying for appropriate grants.

iv. Collaborate with stakeholders to provide workshops on school gardens to cover aspects of starting and maintaining a garden in addition to garden programming for youth.

v. Collaborate with stakeholders to maintain school gardens during the summer months.

vi. Students may take produce from the garden home or be used in taste testing’s in the classroom as long as proper food safety guidelines are followed. For more information on consuming produce from a school garden please visit the following website: http://www.okfarmtoschool.com/resources/fts-distro-foodsafetymanual/section2-fresh-healthy-safe-food.pdf.
RECOMMENDATIONS

SHORT TERM:

There are several smaller actionable items that can occur in the near future to begin the implementation of a Farm to School program within CMS.

1. Create a full time Farm to School Program Coordinator position to collaborate with CMS’ CNS and other stakeholders to establish Farm to School initiatives and programming. This position would assist in the development and implementation of the following:
   a. Create:
      i. A list of produce that CMS currently uses that could be sourced locally and identify local farms or distribution businesses that meet food safety requirements to determine if it is comparable in price to US Foods.
   b. Develop and implement:
      i. A “Harvest of the Month” program to highlight locally grown produce monthly in school cafeteria meals. This would entail that one locally grown fruit or vegetable is highlighted within the school environment and served in school lunches on select “Harvest of the Month” days. This can be tailored to reflect the unique geographic location of Mecklenburg County, nearby farming communities, student populations, and kitchen facilities. Best practices for this program include determining the fruit and vegetable preferences of youth to begin implementation of the program with fruits and vegetables that youth are familiar with. In addition, it is advised to accompany this program with a marketing campaign.
      ii. A visually appealing marketing campaign targeted to youth and their families. The campaign should feature the “Harvest of the Month” program and other Farm to School program initiatives to be advertised in school newsletters, the school website, school lunch menus, and other promotional materials such as posters and fliers within the schools. It is advised to develop a logo to be consistently displayed on all marketing materials to brand the Farm to School program (See Appendix four).
      iii. Classroom activities and/or a curriculum to support Farm to School concepts, such as nutrition, agriculture, culinary, and environmental sustainability. It is advised to incorporate experiential learning activities such as cooking demonstrations, field trips to local farms, farmers markets, or community gardens, gardening activities, etc., into the curriculum to enhance students learning experiences. One of the most commonly cited school garden project is the Edible Schoolyard Project.
(http://edibleschoolyard.org/), which is based in California but has had branches emerge in places from New Orleans (http://esynola.org/index.php?page=edible-garden) to Greensboro, North Carolina (http://www.gcmuseum.com/edible-schoolyard/).

c. Collaborate with:
   i. CMS in developing a system to track the amount of local foods used.
   ii. Environmental Health Services to develop a protocol for establishing school gardens and consuming items from the garden.
   iii. Stakeholders to provide a workshop on school gardens to cover aspects of starting and maintaining a garden in addition to garden programming for youth.
   iv. Stakeholders to rejuvenate or establish school gardens to provide hands on learning opportunities for youth.
   v. Stakeholders or organizations to maintain school gardens during the summer months. Community organizations such as local gardening agencies, faith based congregations, neighborhood associations, gleaning agencies should be considered.
   vi. Stakeholders in the local food movement to help promote and garner support for the Farm to School program and local foods in general.
   vii. Stakeholders to develop and arrange for more intensive culinary trainings for CMS cafeteria staff. Similar programs have been conducted by the South Carolina Farm to School Program and the Cook for America Program, and can serve as examples.
   viii. Stakeholders to expand the current network of local chefs that would be willing to participate in the Chefs Move to School program at CMS.

d. Host a Farm to School program kick-off and media event at the beginning of the Farm to School programming efforts to celebrate and garner widespread community support. Attendees should include: youth, local media, members of the school board, the district superintendent, food service staff, educators, food producers, community members, and other stakeholders. The event should encompass components, but not be limited to: featuring nutrition, agricultural, culinary, and environmental education and demonstrations. Similar events include Lunch In hosted by Advocates for Health in Action in Raleigh, North Carolina and Local in the Lunchroom by Ecotrust in Portland, Oregon.

e. Conduct taste testing's of “Harvest of the Month” items to familiarize youth with the specified produce and to aid in the success of the program.

f. Establish or recruit a current student group within CMS to receive student input, garner student support, and promote Farm to School initiatives among students within CMS.
g. Encourage and provide technical assistance in the application process for farmers to become GAP certified and for school teachers and administrators to apply for appropriate grants pertaining to Farm to School programming.

h. Provide training to farmers on how to successfully identify and submit RFPs.

**LONG TERM:**

It is advised to start small with Farm to School initiatives to determine feasibility and best practices for that particular school district and then progressing to include more local foods into the menu. The collaboration of the community and stakeholders as a whole will be necessary to progress and sustain the Farm to School program within CMS. The following recommendations are actionable items that would assist in Farm to School initiatives, helping to ensure program longevity and sustainability.

1. Identify and secure local items that could be featured on the lunch menu on a regular basis. Horizons can be expanded to incorporate more local products in addition to produce, such as meat, grains, or dairy.
2. Revise school menus and recipes to reflect the seasonality of local produce.
3. Develop and implement a “Local Lunch” program that entails featuring a meal in which all items are produced locally once a month.
4. Establish a centralized refrigerated storage space for CMS to allow for the storage of fresh produce.
5. Develop a “Community Partner” program to complement Farm to School efforts to reverberate local food efforts into the wider community. This community partner program can take on multiple forms and duties as deemed fit by the community partners. One such community partner program piloted by the Oregon Department of Agriculture had community partners ranging from local supermarkets, co-ops, and restaurants to promote the schools Harvest of the Month fruit or vegetable through signs, posters, featuring it in a recipe, demonstrations, and discounts in their respective operations. For examples of promotional materials see Appendix five.

6. Foster stakeholder collaboration to develop a local food hub, which is GAP/GHP certified, to provide the link between local farmers, food producers, food processors, distributors, and buyers within the region to shorten the distance between farm and fork. A food hub could help eliminate the barrier or seasonality by freezing perishable produce and by providing proper storage of those items. In addition, these food hubs could offer value added items to cater to the needs of CMS and develop a feasible distribution process for CMS. Food hubs are growing in popularity with one example right here in Southeastern North Carolina, Feast Down East (http://www.feastdowneast.org), and Fifth Season Cooperative (http://fifthseason.coop) in Wisconsin.
7. Propose and/or support a bill to the state to appropriate money to incentivize the purchasing of local foods in schools by providing a percentage of reimbursement to the schools for products that have been purchased locally. Ecotrust and the Oregon Department of Agriculture piloted this concept in a case study of two schools, which had a positive effect on the local food economy.

8. Establish an urban or suburban schoolyard farm to provide additional experiential learning experiences for students. The question of what to do with the harvest brings up multiple potential solutions. To help ease the barrier of the cost of local foods, the schoolyard farm could become GAP certified and donate items to the school cafeteria. The harvest could also be donated to an organization, such as a food pantry, or be sold to the public to help fund the program. There are a couple of existing models of such programs such as the Grow Dat Program based in New Orleans (http://growdatyouthfarm.org/grow-dat-program/) and the Edible Schoolyard Project in Berkeley, California.
CONCLUSION

As a nation we are facing a childhood obesity epidemic fueled by an environment that promotes unhealthy eating and physical inactivity, in which Mecklenburg County is no exception. In an era of highly processed foods that travel hundreds if not thousands of miles, we have the opportunity to provide access to local, fresh fruits and vegetables and other minimally processed foods to every child enrolled in CMS. North Carolina is one of the top agricultural states in the nation. The quality and variety of produce and other agricultural products grown in our state is astounding, but a large majority of that does not end up in our schools, feeding our children.

In a state where one in three children are overweight or obese, where more than 40% of children aged 5-10 and more than 80% of high school youth do not consume the recommended servings of fruit and vegetables each day, action is needed. Starting a Farm to School program will require the collaboration and resources of not only CMS, farmers, and other stakeholders, but the community as a whole in order to bring the dream of “What ifs?” to life. Today’s youth are depending on us as adults and their community to keep their best interest in mind and look out for their wellbeing. What if we, as a community, could reverse the childhood obesity epidemic here in Mecklenburg County?

What if we could reverse the childhood obesity epidemic?
APPENDIX

APPENDIX 1: COMMUNITY RESOURCES

• Local Media:
  o Charlotte Examiner
  o Charlotte Observer
  o Local Television Stations
  o Natural Awakenings

• Gardening: Gardening expertise and support along with activities/curriculum
  o Catawba River District Project
  o Charlotte Green
  o Charlotte Urban Farm Project
  o Communities in Schools
  o Cooperative Extension/4-H
  o Edible Schoolyard Project
  o Field to Fork
  o Food Corps
  o Friendship Farms
  o Greater Mecklenburg Community Services, Inc.
  o Master Gardeners of Mecklenburg County
  o Microfarm Organic Gardens

• Culinary: Facilities to hold trainings and chefs/culinary students
  o American Culinary Federation
  o Art Institute of Charlotte
  o Central Piedmont Community College
  o CMS Training Schools
  o Community Culinary School of Charlotte
  o Friendship Trays
  o Hope Haven Inc.
  o Johnson & Wales University Charlotte
  o Piedmont Natural Gas Customer Service Center

• Youth:
  o AHEC Heroes
  o Future Farmers of America (FFA)
  o The Core
  o Various student groups
  o Youth Empowered Solutions!

• Parents:
  o CMS Parent University
- Parent-Teacher Associations (PTA)

- Local Food Supporters:
  - Appalachian Sustainable Agriculture Program (ASAP)
  - Carolina Farm Stewardship Association (CFSA)
  - Center for Environmental Farming Systems (CEFS)
  - Charlotte Locavore
  - Charlotte-Mecklenburg Food Policy Council
  - Farmers
  - Farmers Markets
  - Grow Charlotte
  - Harvest Moon Grille
  - Mecklenburg County Friend of Agriculture
  - North & South Carolina Agricultural Associations
  - North Carolina Cooperative Extension
  - North Carolina Department of Agriculture & Consumer Services
  - Slow Food Charlotte
  - The 10% Campaign

- Distributors:
  - Know Your Farms
  - Leading Green Distributing

- Sustainability/Environmental Agencies:
  - Appalachian Voices
  - Charlotte Clean and Green
  - Clean Air Carolina
  - Food & Water Watch
  - Mecklenburg County Waste Reduction
  - Mecklenburg Soil & Water Conservation
  - North Carolina Air Awareness
  - North Carolina Office of Environmental Education
  - Sustain Charlotte

- Potential Funders:
  - Blue Cross Blue Shield North Carolina
  - Carolina Farm Stewardship Association (CFSA)
  - Center for Environmental Farming Systems (CEFS)
  - Duke Endowment
  - Golden Leaf Foundation
  - North Carolina GAP Certification Assistance Program
  - Rural Advancement Foundation International (RAFI)
  - Tobacco Trust Fund
  - USDA Farm to School Grants
APPENDIX 2: LIST OF THIRD PARTY GAP/GHP CERTIFYING AGENCIES

- AIB International*
- GlobalGAP
- ISO International Standards Organization
- NFS Davis Fresh Technologies
- United States Department of Agriculture (USDA)-North Carolina Department of Agriculture and Consumer Services (NCDA&CS)*
- Primus Labs*
- Scientific Certification Systems*
- Silliker

*Denotes certifying agencies that qualify for the NC GAP Assistance Program
APPENDIX 3: MAPS OF GAP/GHP CERTIFIED FARMS AND DISTRIBUTION CENTERS

Farms:

http://goo.gl/maps/Z7sE

Distribution Centers:

http://goo.gl/maps/mGK8
APPENDIX 4: PROMOTIONAL MATERIALS

Source: Oregon Department of Agriculture
Harvest Calendar

- October: Apples
- November: Brussels Sprouts
- December: Winter Squash
- January: Potatoes
- February: Pear
- March: Frozen Strawberries
- April: Green Beans
- May: Asparagus
- June: Radish
APPENDIX 5: COMMUNITY PARTNERS PROMOTIONAL MATERIAL
Source: Oregon Department of Agriculture

Many stores displayed the “Harvest of the Month” monthly signage in their wet produce sections, next to the appropriate fruit or vegetable, as in this photo from Food Front Co-op.

Kaiser Permanente prepared and served “Harvest of the Month” recipes on their cafeteria line, accompanied by signage and recipes (e.g., cabbage coleslaw and a berry buckle).
APPENDIX 6: ABBREVIATIONS

CACFP: Child and Adult Care Food Program
CMS: Charlotte-Mecklenburg Schools
CNS: Child Nutrition Services
CSA: Community Supported Agriculture
DOD Fresh: Department of Defense Fresh Program
FFVP: Fresh Fruit & Vegetable Program
GAP: Good Agricultural Practices
GHP: Good Handling Practices
HACCP: Hazard Analysis and Critical Control Points
NCDA & CS: NC Department of Agriculture & Consumer Services
NSB: National School Breakfast Program
NSLP: National School Lunch Program
RFP: Request for Proposals
SCDA: South Carolina Department of Agriculture
USDA: US Department of Agriculture
REFERENCES

ACKNOWLEDGEMENTS

Special thanks to the following contributors:

Addie Walker, Health Promotion Intern, Mecklenburg County Health Department

Allison Mignery, Corliss Allen, Julie Jackman, Lovemore Masakadza, Megan Dean, Mecklenburg County Health Department-Health Promotion Program

Amy Harkey, Christina Harley, Cindy Hobbs, Charlotte-Mecklenburg Schools Child Nutrition Services

Christy Shi, Shi-Day Consulting

Heather Barnes and Ted Fogelman, NCDA & CS Farm to School Program

Holly Harring, SC Farm to School Program

Kelin Coleman, Youth Empowered Solutions!

Lynn Lathan, Mecklenburg County Health Department-Environmental Health Services

Michelle Makesteyn Ratcliffe, Farm to School Manager, Oregon Department of Agriculture

Sheldon Schreiber, Harvest Moon Grille

Photography Credits:

Corliss Allen, Jillian Mickens, and Allison Mignery