

Promoting Community Well-being through Locally Grown Organic Produce and Health Education

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Abstract

The United States has an alarmingly increased rate of chronic diseases such as obesity, diabetes, cancer, heart disease and stroke. As a nation we spend 86% of our healthcare dollars on treating these chronic diseases and their symptoms. Instead of treating chronic disease symptoms we should start to shift our focus towards prevention through community engagement and health education. Flying Fish CSA is an organic, four season, vegetable farm located on the edge of North Asheville in Weaverville, NC. This is a small for profit, family business that provides locally grown produce with the help of community volunteers. They believe whole-heartedly that as more Asheville residents eat locally, they will improve their health and strengthen the community as a whole. This local farm was in dire need of new marketing materials. For this public service project I worked with Seth Salmon, the owner of Flying Fish CSA, to find ways to get connected in the community and provide educational resources which would benefit his farm as well as the community. We decided to create marketing materials that educate and inform the public on the health benefits of purchasing locally grown organic vegetables. We also wanted to create an opportunity for people in the community to get hands-on experience working on the farm. I led a group of volunteers on a project to convert a shed into a tiny house for seasonal interns to get an insightful experience while living on the farm. This project taught me the skills necessary to better communicate health information to the public and to create a sustainable opportunity for future volunteers and interns to learn, grow, and thrive through community agriculture.

Key words: Organic Farming, Community Health, Produce, CSA, Agriculture

Origins of the Project

Currently 1 in 3 people in the United States will be diagnosed with cancer in their lifetime. 1 in 3 people in the United States also have pre-diabetes and are unaware of the impending risk of diabetes. Heart disease, cancer and stroke are the country's three leading causes of death, even though billions are spent each year to treat these very conditions. As of 2012, Millions suffer from a host of other degenerative diseases, and half of all adults, approximately 117 million people, have one or more chronic health conditions. This means one of four adults has two or more chronic health conditions. It is clear our nation has a health care epidemic and we need to unite as a community for the health and vitality of all (Chronic Diseases)

Luckily, scientists from around the globe have found the answer in disease prevention. One key component to disease prevention is eating a mainly whole foods, plant based diet. Dan Beuttener, the author of *The Blue Zones*, a book that discusses the commonality between societies that have the highest rates of longevity. Societies around the globe such as Okinawa, Sardinia, and Loma Linda California have primarily a plant based diet in common as well as the highest rates of longevity (Beuttener).

With my knowledge of plant based prevention on chronic disease, I wanted to explore the world of food in depth at the roots of production. I have been working as an intern for Seth Salmon, a third generation organic farmer and the owner of Flying Fish CSA. Flying Fish CSA is a local, organic farm in Weaverville, North Carolina. One of his goals is to increase the overall health of our community. CSA's also known as Community-Supported Agriculture, allows city residents to have direct access to high quality, fresh produce grown locally by regional farmers. When you become a member of a CSA, you're purchasing your "share" of vegetables from a local farmer. Seth's farm is on 11 acres and has 6 green houses, 4 fields, an aquaponics tank, chickens and beehives. Therefore, his CSA is a bountiful mix of brightly colored produce.

He relies heavily on the support of community volunteers for maintenance, planting and harvesting on the farm. As the local food demand in Asheville grows, so does the demand for increased food production and labor on the farm. I worked as an intern this spring working side by side with Seth. Seth expressed the need for a sustainable home for future interns, as well as a way to boost sales at the farmers market. His challenge is often keeping hard working, reliable volunteers to help on the farm. We wanted to come up with an incentive for dedicated workers to be able to have a place to stay on the farm for consistent daily work. All volunteers get to leave with a basket full of freshly picked produce after a few hours of work on the farm. His vision was to convert the large shed behind his house into a tiny house for farm interns in order to create an environment for committed volunteers to have a place to stay.

Methods and Work

Seth asked me to find a way to draw consumers into his table at the farmers markets. At that time he had only one sign that said “kale”. He wanted me to research into a way to increase sales at the market as well as share information about joining the local CSA. I knew right away that we would need to create more signs labeling the produce he was selling as well as information on his farm and CSA. Luckily, there was a farm volunteer who loves marketing so she helped create a well-designed flyer on the benefits of a CSA and how to join.

I wanted to find a way to support the needs of Seth and his farm as well as find a way to increase food education in the community. We decided that on each sign for the produce we would list below some of the highest nutrient components as well as the related health benefits to each vegetable. The “sweet potatoes” sign, for example, would have health benefits listed as antioxidant protection, contributes to heart health, can help regulate high blood pressure, and contains vitamin C, iron, potassium and fiber. By listing the nutrient contents and the health benefits it informed consumers on the food they purchased and the information provided should instill an awareness on food education and mindful eating. I wanted to create an eye catching way to display the vegetable cards and be able to easily replace them with the foods that are currently in season.

I created 10 wooden picture frames that hold the nutritional information in place with tiny clothespins. I burned the wood with a torch to bring out the wood grain and create a rustic farm look. We are able to place the information either hanging or on the table next to the produce.

Through this process, I developed a master handbook that has more information on the foods in case people are interested in learning more. I severely underestimated the amount of time it takes to research over 40 types of vegetables and their health benefits. Each page describes the vegetable, its nutritional value, and the health benefits. It took me approximately 15 hours to complete the research and creation of the book. However, it was well worth it for my personal continued nutrition development and the benefit of the farm and community.



(The above photos display the health education cards I created for green onions on the left and swiss chard on the right)

In order to work on a sustainable home for future interns, we had to undertake a major remodeling project with the shed out back. We first organized and cleaned everything out. Next, we tore down the plastic Tyvek interior that had once been the home of little critters. As we tore down each wall we would discover the homes of ants, mice and one unfortunate dead squirrel. After spending hours cleaning, we put in the insulation. Then we nailed up the beautiful red oak and white pine plywood in the interior. Together we found wood from Lowe's and Columbia Wood. Finally, we had to pipe in electricity to the tiny house and build an outdoor kitchen. The interns will have access to the downstairs bathroom off the main house, making plumbing not a concern. The project was slow due to financial complications but has a goal of completion by April 30th. I will continue to work on this project past graduation.



(As you can see in the top left photo the shed was filled with supplies. The top right photo was the beginning of tearing down the Tyvek plastic. Bottom left photo shows the shed after removing insulation. Bottom right shows the plywood nailed up after installing insulation.)

Ties to Academia

My service project with Flying Fish CSA and the Asheville community has provided me with the opportunity to implement the skills I have learned throughout my years of study. As a graduating senior with a Bachelor's of Science in Health and Wellness Promotion, knowledge and understanding of health communication and disease prevention is a vital part to my career and was the main communication piece during my conversations at the market.

Chronic disease and conditions such as heart disease, cancer, stroke, diabetes, obesity and arthritis, are among the most common, costly and preventable of all health problems. Pathophysiology taught me the etiology of chronic disease as well as treatment protocols and most importantly preventative measures. For every disease there were always underlying behavioral conditions. Many times there are factors that are out of our locus of control, but the ones that we can alter, such as unhealthy diets and behaviors, are what health promoters aim to change and prevent. As health promoters, we are aware of these non-modifiable risk factors such as race, ethnicity, heredity, age, and gender. But for ideal health and prevention of chronic diseases there are modifiable risks like avoiding tobacco and alcohol, cutting back on saturated fat and cholesterol, maintaining a healthy weight, and managing psychological factors and stress levels. I feel that the work I have been doing on the farm is direct action towards promoting a healthy community. By educating and informing the community on personal health food choices it will in turn benefit them physically, mentally and environmentally

The detailed course Nutrition and lifestyles, expressed the importance of a plant based whole foods diet. It showed the physiological effects of diet and nutrition on a cellular level. All health promotion classes expressed prevention through behavior changes as the key to optimal health. Physical activity and a whole foods plant based diet has the capability of preventing and even reversing chronic diseases.

Throughout every course a major recurring theme was the lack of health education and access to resources. It's now my duty as a health promoter to create programs and pathways for food access and education. We live in a world that has the odds against us. Our food, water and air are in a constant state of being poisoned with toxic environmental pollutants. Most of the foods available are packed full of GMO's, artificial flavors, preservatives, chemicals, fats, salts and sweeteners. We are constantly bombarded with mixed health information in the media. The fast paced lifestyles we live makes it hard to take the time to cook, so we trade convenience for health. Pharmaceutical companies rely on us to keep eating poorly, stay stressed and continue popping pills. They don't want us to die but to stay just sick enough to keep them in business. When Hippocrates said "Let food be thy medicine," he knew what Westerners are finally rediscovering, that the key to health is prevention through a well-balanced diet and lifestyle. This extends to farm work, too, impacting the health of our planet on every level.

According to Caldwell B. Esslysten Jr., his research into ways to reverse coronary artery disease through nutritional intervention has incredible results. The core diet included whole grains, legumes, lentils, other vegetables, fruit, and the avoidance of all oils, fish, meats, dairy products,

avocado, nuts, sugary foods and excess salt. One example showed within as little as 3 weeks normal blood flow was restored to a patient that had an area of myocardium with insufficient blood flow. The Positron emission tomography performed on the patient with coronary artery disease shows how powerful a plant-based nutritional intervention can be in reducing intensive surgeries and even death Pathophysiology, physiology and Nutrition taught us the science and reasoning that shows how a chronic disease like diabetes can be prevented and even reversed with a whole foods plant based diet. (Esslysten)

With the overwhelming food disparity in the world, the unequal distribution of food is heart breaking. The lack of access to food and food education due to poverty is a global issue that can and needs to be resolved. The World Hunger Education Service estimates that one in seven people in the world is chronically undernourished, and 98% of these people live in developing nations. Malnutrition can be on two ends of the spectrum by being undernourished and overnourished. Undernutrition afflicts people who don't have enough to eat. It stunts mental and physical development, reduces productivity, and perpetuates poverty. However, overnutrition is the result of excessive consumption of energy dense food along with inadequate physical activity. Overnutrition causes rising rates of obesity and puts people at risk of the chronic diseases that are the main causes of death in the United States. During my project my goal was to educate and inform the community on nutritionally dense foods and how to be mindful of the bodies needs in order to not fall on either end of the spectrum.

In Health Parity, we were searching for strategies for providing global solutions to hunger and malnutrition. Working on an organic farm is a direct link to sustainable agriculture. There are personal choices we can make to combat global malnutrition such as choosing to purchase certain foods. By purchasing locally grown, organic produce we as a community are making those foods more likely to be produced in the future. Eating organic food encourages reduction in the use of chemical pesticides and herbicides in our environment. By going to local farmers markets it creates the greater local availability of fresh foods. As a direct result the costs and resources devoted to distribution, transportation and storage of foods is greatly reduced. In the United States, the greatest type of malnutrition is overnutrition and it's every health promoter's job to find ways to educate our nation on the risks associated with overnutrition.

In Introduction to Health Promotion and Health Promotion Theory and Practice I learned the techniques for developing strategies for determining prevention related needs for specific populations. They exposed me to the importance of a needs assessment. I had to implement culturally and educationally appropriate materials at the farmers market. I needed to assess what type of population was visiting the market by identifying their age, race, education and social circumstance to be able to determine what type of health information would be most beneficial. Also, I had to find a way to encourage people that are already attending the farmers markets to take a more committed step in maintaining these healthy choices. We decided that by listing the health benefits of each vegetable and its nutrient content we were encouraging people to start reading labels and becoming aware of what is in the food they consume. Our hope is they will start to limit energy-dense, nutrient poor choices and start to encourage their family and friends

to do the same. We know that the more educated the community becomes on health and nutrition the easier of a decision it will be to live a well-balanced lifestyle. (Thompson)

Flying Fish CSA currently only sells produce, thus indirectly and directly encouraging people to eat more vegetables or possibly adopt a plant based diet. By providing a plethora of health information surrounding the health benefits of eating vegetables we are not directly telling them to become a vegetarian but we are persuading them to undertake a behavior change without telling them to change. If we can encourage a person to limit their amount of meat consumption, this too will affect the global food supply. The production of plant based foods requires a lower expenditure of natural resources and releases fewer green-house gases than the production of animal based foods. Eating a plant based diet preserves land, water and global energy and reduces global warming.

Challenges Faced and Responses to those Challenges

The minor challenges faced during the projects were financial restraints and the weather. As a small locally owned business in the winter, Flying Fish CSA's income varies with the weather. The weeks it snowed we were unable to harvest and be at the farmers markets, therefore, Flying Fish CSA had no income for the week. We would continue on the projects as the income would come in, we greatly underestimated the cost of up fitting the tiny house. However, with hard work and extra research we were able to acquire reasonable priced materials. Being able to complete a building project while working around my school, work and the weather was challenging, there were times we would work in the rain and snow. Midway through this project we knew that that I would be the first full time intern who would move into the tiny house. A major challenge was making sure we finished the project in a timely manner because I turned in my notice to my current landlords. Financial restraints and time became the main stressors around this project with the fear of not completing the house in time. However, we are almost finished with a week to spare before the official move in date.

Results

The benefits of eating locally grown food is abundant and the results of this project are evident. We were able to empower and educate the community on the benefits of eating locally grown produce. They were able to see that locally grown food is in season, full of flavor and packed with nutrients. Through this process they started to see that local agriculture provides less time in between harvest, which means the nutrient values has not decreased as much as food being shipped in from overseas or across the country. By them buying locally they support the local economy and the hardworking citizens of our community. Fair Food Foundation commissioned a study in 2006 to find out what would happen if people purchased locally grown, processed and prepared food where more local food companies were returning value to their communities. The results of their findings showed that if only 20 percent of food spending, was on food that is

grown, processed and distributed by locally owned companies, the estimated annual impact on the economy would be a boost of nearly half a billion dollars. More than 4,700 jobs would be created, and the city would receive nearly \$20 million more in business taxes each year. (Thompson)

As I worked the market every Saturday I began to create relationships with community vendors as well as customers. There are a few customers that come to mind, one in particular is Jake, every Saturday morning he always stops by our table to say hello. He is physically active but until we put up the signs had never purchased produce from us. He simply stopped to chat and then carried on his way to the pastry and poultry vendors. The very first time we put up the signs on produce that had the health benefits was the first time he purchased produce from the farm. He stopped by and had his usual conversation with us, only this time he mentioned how he was just getting over a cold. Having just read the table card for Cress, I saw that it was high in vitamin C and vitamin A. I was able to tell him that vitamin C is great for his immune system, which will help him to continue fighting off his cold. To his surprise and delight he finally decided to purchase his first bag of cress. Every week after that he has stopped by to learn about the benefits of each vegetable. I also recall a time where an elderly woman shared with me that she was just diagnosed with osteoporosis and didn't want to start taking prescription medication. I was able to show her that all the greens we had on the table was a source of calcium. She had previously thought that only milk had calcium. I was able to share with her that milk is fortified with calcium and discussed food options that would benefit her as well as other weight bearing exercises.

The last example is a story of a young woman named Evelyn who was passing by our booth and mumbled under her breath "I've killed every plant that I've ever owned." I said, "well, let's change that!" and we ended up talking about certain varieties of plants that are easy to care for and keep alive. She ended up buying 6 plant starts in order to attempt a mini garden. She asked what my favorite herb was and I expressed how I love oregano for its robust flavor as well as its antiviral, antibacterial, and anti-fungal properties. I told her that I make tinctures out of oregano and my experience is that at the first sign of a cold, I take it and it wipes out the cold before it even begins. The next week she bought about 10 more plants and said we created a monster who can't stop planting. She also mentioned that she was feeling a little sick one morning and went out and chewed on some oregano and felt great! Now whether that actually worked or was a placebo effect, I don't really know. What matters is her newfound enthusiasm and excitement for connecting with the plants that she is growing and making connections between food and health.

These are just a few examples of the increased traffic and community engagement due to health communication. There are countless stories of community members purchasing more food based on the health information provided. The amount of conversations around chronic disease prevention and overall health and wellness has been a great success. These interactions are what fill me with joy and happiness. I love the fact that I am helping promote health in my community. This type of community engagement has shown an overall rise in produce sales for the farm.

The beautiful thing about health promotion is it takes one little step to quickly change local food culture. The other vendors at the market were interested in our health promotion signs. One vendor came up and asked if it would be okay if she “stole” the idea from me. I was overwhelmed with joy and said “of course!” and proceeded to explain the importance of educating the consumers on what they are purchasing. I feel like this is the first step in a continued journey to change the farmer’s market environment for the better.

The result of the tiny house was that Seth will now have my husband and I continuing on as interns for spring, summer and fall. I have learned so much from being on the farm every week that I wanted to continue my journey on the farm. By the end of the fall I will have learned the essentials to running an organic farm. My goal is to then move to Barnardsville to start my own organic farm in the winter. Then after the winter, Seth will be able to reach out to new interns to come and live on the farm to experience the amount of work that goes into the daily tasks. This beautiful cycle of partnership through farm work and farm education will allow an unlimited amount of individuals to continue sustainable agriculture and health education.

Sustainability

Sustainability is a key word when it comes to organic farming. The sole purpose of an organic farm is to find sustainable solutions to world health and environmental protection. We approached the sustainability of this project with a multifaceted approach. We wanted to make sure the type of projects I worked on as an intern would carve a path for future interns to continue on community health promotion. As insurance we worked on the tiny house project to provide the opportunity for future volunteers and interns to live on the farm to get hands on experience.

In terms of sustainability at the farmers market with the community health education, I created a reference handbook. With this handbook Seth and the farm volunteers will be able to continue spreading the health benefits of a plant based diet as well as supporting locally owned organic farms. The great thing about this project is it could work as a template for all the farmers at the markets. We need to shift our environment to pure community education and health promotion. Finding ways to work for the common good of the community through primary prevention is a sustainable goal.

Conclusion

Through this project I had the unique opportunity to get hands on experience working as an organic farmer, as well as a continued understanding of the need for health communication in our community. This project started as a local farm looking for new marketing materials, but turned into something greater by providing community education and health promotion. As well as a continued internship through the fall that will strengthen my skills and knowledge. Health and

Wellness Promotion strives to create community involvement around health related issues that will impact the individual, community and world as a whole. Through this project I was able to apply the invaluable skills I have learned as a health and wellness professional and apply it to a meaningful experience that has positively impacted many lives in our community. As a graduate of Health and Wellness Promotion the goal was to feel empowered as an individual to live and teach others how to live a healthier, balanced and more meaningful lifestyles. I feel confident in spreading health promotion practices in every aspect of health and wellness through mental, emotional, social, environmental, physical, spiritual, and financial health.

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