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**A GARDEN-BASED NUTRITION EDUCATION SUMMER PROGRAM POSITIVELY  
IMPACTS THE FRUIT AND VEGETABLE PREFERENCES OF INNER-CITY HIGH  
SCHOOL STUDENTS**

A Thesis

Submitted to the Graduate Faculty of the  
Louisiana State University  
Agricultural and Mechanical College  
In partial fulfillment of the  
Requirements for the degree of  
Master of Science  
In

The School of Plant, Environmental and Soil Sciences

By  
Emily Kathryn Neustrom  
B.G.S., University of Louisiana at Lafayette, 2002  
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## ABSTRACT

Americans, especially low-income citizens, do not meet the daily USDA recommendations for fruit and vegetable consumption. Low fruit and vegetable intake can be associated with several types of chronic diseases. The dietary patterns established at a young age often carry into adulthood, hence the need for nutrition education beginning in youth. Studies have shown that nutrition education coupled with a gardening program can impact youth's nutrition choices and snack preferences. The Summer Experience was an eight-week garden-based nutrition education program designed to teach gardening, cooking, nutrition, business and life skills for inner-city high school students in Baton Rouge, Louisiana. The study subjects were McKinley High School students (n=33), who reside in a primarily low-income, food desert in East Baton Rouge Parish. This study was to determine the impact of the Summer Experience on high school students' knowledge, attitudes, and preferences regarding fruits and vegetables. A three section questionnaire was used to measure students' nutrition knowledge, fruit and vegetable attitudes, and snack preferences. After participation in the program, students' snack preferences significantly improved ( $p \leq 0.025$ ), however, there were no differences found in participants' nutrition knowledge ( $p \leq 0.187$ ) or attitudes towards fruits and vegetables ( $p \leq 0.283$ ). The program results suggest that skill building in gardening and cooking may positively impact factors related to the fruit and vegetable intake of inner city high school students.

# CHAPTER 1

## INTRODUCTION

The increase in childhood obesity and chronic disease in the United States has led to new ways to teach youth nutrition education (Perez-Rodrigo and Aranceta, 2001; Resnicow et al., 2008; Trudeau et al., 1998). Studies find that neither youth nor adults meet the daily recommendations for fruits and vegetables outlined by the United States Department of Agriculture MyPyramid (Casagrande et al., 2007). Research shows that adults involved in community gardens eat more servings of fruits and vegetables on a daily basis, and that exposure can increase consumption of fruits and vegetables (Alaimo et al., 2008; Bellows et al., 2004; Blair et al., 1991). Gardeners eat what they grow because they generally believe it is healthy and cost-efficient (Armstrong, 2000; Patel, 1996; Pothukuchi and Bickes, 2001).

A current trend in nutrition education is using a garden-based nutrition education intervention which has been shown to increase youth's preference, attitudes, and knowledge towards fruits and vegetables (Robinson-O'Brien et al., 2009), however, more empirical evidence is needed. Teaching youth gardening and agriculture is not a new concept, neither is teaching youth nutrition and healthy eating (Subramaniam, 2002). The combination of a gardening and nutrition curriculum is a fairly new approach to teaching nutrition education (Robinson-O'Brien et al., 2009). School-based nutrition education programs have been shown to generate a positive increase in nutrition knowledge, attitudes, and some behaviors (Contento et al., 1992; Howerton et al., 2007; Perez-Rodrigo and Aranceta, 2001). Integrating garden activities with nutrition education has been shown to be an effective at increasing positive attitudes towards fruits and vegetables (Robinson-O'Brien et al., 2009). Children involved in school gardening alone have demonstrated an increased preference for vegetables (Morris and Zidenberg-Cerr, 2002; Morris et al., 2001). Minimal research has been done on the use of



garden-based nutrition education in schools, and even less research has been done to evaluate the impact of after-school and community programs that serve youth in urban areas (Robinson-O'Brien et al., 2009).

Youth farms in urban areas, such as Added Value and East New York Farms in Brooklyn, NY, and Growing Power in Milwaukee, WI, are increasingly serving multiple functions in food insecure neighborhoods by providing youth employment and fresh food to citizens (Bellows et al., 2004; Hung, 2004; Williamson, 2002). While these programs are garden-based, they do not specifically have a nutrition education focus for youth. Based upon previous research of the impacts of gardening on fruit and vegetable intake, these programs may have the potential to positively affect environmental, psychosocial, and biological barriers to the consumption of fruits and vegetables. The purpose of this study was to evaluate the impact of an 8-week garden-based nutrition education program on the nutritional knowledge, preferences, and attitudes of urban high school youth regarding fruits and vegetables.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1. Introduction**

New ways to teach healthy eating are being researched due to the increase of chronic heart disease, type 2 diabetes, and cancer in adults in America. A current trend in the United States is using garden-based nutrition education programs to teach youth the importance of a healthy diet and to encourage the consumption of recommended servings of fruits and vegetables. Gardening and nutrition education in a combined curriculum have been shown to increase the knowledge, attitudes and preferences regarding fruits and vegetables (Robinson-O'Brien et al., 2009). The literature reviewed in this chapter looks at factors involved in the consumption of fruits and vegetables, the foundations of garden-based learning, and using garden-based nutrition education programs as an intervention in-school, after-school, and in the community.

#### **2.2. Current Health Issues**

According to the World Health Organization, 16.7 million deaths were due to a range of cardiovascular disease, and approximates that 2.7 million deaths could be prevented if recommendations for fruit and vegetable intake were followed (WHO, 2009). Intake of fruits and vegetables has repeatedly been shown to decrease chronic disease, such as cardiovascular disease, type 2 diabetes, and cancer (Ness and Powles, 1997). The current obesity and overweight epidemic are also related to low consumption of fruits and vegetables and a high consumption of fat and saturated fatty acid (Frazao, 1999; Kirby et al., 1995; Ness and Powles, 1997). Basiotis (2002) reported that only 10% of Americans met recommendations for fruits and vegetables suggested by the USDA in 1999-2000 (Basiotis, 2002). Low-income Americans have especially low intake of fruits and vegetables (Basiotis, 2002; Lin, 2005).

The USDA recommends daily intake of fruits and vegetables in the MyPyramid. American adults and children are reported to not meet daily suggestions for fruits and vegetables (MyPyramid, 2009). Research has shown that obesity in children can lead to chronic diseases as adults, and also that eating patterns established as a child carry over into adulthood, as well (Mikkilä et al., 2005; te Velde et al., 2007; Wang et al., 2001). Interventions should be considered that expose youth to a variety of food experiences at an early age and involve parental education which leads to a healthier diet of a child (Cooke, 2007; Garn and Clark, 1976; Whitaker et al., 1997).

Because of the obesity epidemic in the U.S., nutrition education in schools, after-school, and in community-based youth programs is an opportunity to influence the eating habits of youth. (Perez-Rodrigo and Aranceta, 2001). Garden-based nutrition education can increase knowledge, preference, and attitudes regarding fruits and vegetables (Robinson-O'Brien et al., 2009). Educational programs are most effective when considering the multiple factors that surround food, including taste preferences, cultural norms, accessibility, availability, and socioeconomic status (Friel et al., 1999; Glanz and Mullins, 1988; Perez-Rodrigo and Aranceta, 1997; Trudeau et al., 1998; Resnicow et al., 2008). Knowledge is known to be a factor in increasing preferences for fruits and vegetables (Contento et al., 1992).

Factors that form eating habits and affect food preferences are a mixture of biological, environmental and psychosocial factors (Reinaerts et al., 2007; Vereecken et al., 2005). Biological factors include genetic traits, taste, food neophobia, picky eating, food aversions, and food allergies (Dubois et al., 2007; Glanz et al., 1998; Rozin, 1976; Zuidmeer et al., 2008). A regular intake of fruits and vegetables is shown to be related to uncontrollable environmental factors, such as accessibility, availability, cost, socioeconomic status, and other determinants such as education, lifestyle, culture and demographic (Davis et al., 1999; Deshmukh-Taskar et

al., 2007; Glanz et al., 1998). Several issues surrounding the availability of fruits and vegetables involve the proximity to and availability of grocery stores within a neighborhood, and whether all or some grocery stores sell fruits and vegetables (Bodor et al., 2008; Rose et al., 2009). There is a relationship between lower rates of obesity and overweight in regard to close proximity to a supermarket (Lopez, 2007; Morland et al., 2006; Powell et al., 2007; Rose et al., 2009).

Neighborhood, home and school environments are critical to developing healthy eating habits in youth (Dietz and Gortmaker, 2001; Kelder et al., 1995; Veugelers and Fitzgerald, 2005). When provided at home and at school, youth eat more fruits and vegetables, however since the 1970s high-energy and saturated-fatty acid dense meals are increasingly a part of the American diet (Gillman et al., 2000; Li et al., 2003; Lin et al., 1999). School, home and urban gardens, are one way to increase access and availability (Arcan et al., 2007; Cullen et al., 2000; Nanney et al., 2007; Patel 1991; Reinaerts et al., 2007).

Some psychosocial factors that effect fruit and vegetable intake include parental and peer modeling, self-efficacy, and social support (Brug et al., 2008). Fruit and vegetable intake by children is largely dependent on parental intake of fruits and vegetables (Wardle et al., 2005). Peer-modeling is an effective way to boost intake of fruits and vegetables in children (Hendy, 2002; Lowe et al., 2004; Lowe et al., 2006). School and community programs are examples of peer-modeling and positive social support networks which promote healthy choices and influence fruit and vegetable intake (Robinson-O'Brien et al., 2009; Shaikh et al., 2008). The social aspect and peer interaction in gardening programs can positively affect fruit and vegetable intake (Libman, 2005).

Having positive experiences with peers and adult leaders surrounding gardening and nutrition education can potentially lead to an increased interest in, preference, and knowledge of fruits and vegetables, which could lead to an increase in fruit and vegetable consumption.

Knowledge is another psychosocial factor that influences fruit and vegetable intake. Adolescents are more likely to increase consumption as their knowledge of health advantages increases (De Bourdeaudhuij et al., 2008; Zeinstra et al., 2007). Teaching hands-on cooking skills increases self-efficacy which has been shown to be a factor in fruit and vegetable intake in youth and adults (Vereecken et al., 2005).

The Summer Experience program is a garden-based nutrition education summer program for high school youth that, through hands-on skill building, addresses a combination of biological, environmental, and psychosocial factors related to fruit and vegetable consumption. Garden-based education has been used over the last two centuries in and out of school settings. Positive impacts on fruit and vegetable knowledge, preferences, and attitudes of youth regarding fruits and vegetables have been observed in programs blending garden-based education and nutrition education (Robinson-O'Brien et al., 2009).

### **2.3. Garden-based Learning**

Garden-based learning can be described as an educational tool that makes use of the many activities involved in maintaining and growing a garden (Subramaniam, 2002). Garden-based learning has traditionally been used as a means of either experiential education or environmental education; however, currently garden-based learning is moving into the realm of nutrition education (Desmond et al., 2004; Subramaniam, 2002). Early theories promoting garden-based learning were founded on Howard Gardener's theory of multiple intelligences, and Kolb's theory of experiential education. Garden-based learning coincides with Kolb's theory of experiential learning because the garden offers a learner a tangible, hands-on experience in which to discover new knowledge and synthesize concepts based upon a real, personal experience (Subramaniam, 2002). Garden-based learning is used to teach environmental literacy, environmental education, agricultural literacy, agricultural education, vocational

training, and nutritional education in programs such as 4-H and Future Farmers of America (FFA) (Robinson-O'Brien et al., 2009; Subramaniam, 2002; Waliczek and Zajicek, 1999).

Garden-based learning has contributed to all aspects of basic education, including academic skills, personal development, social development, moral development, vocational and/or subsistence skills, and life skills” (Subramaniam, 2002).

Popular curricula for elementary students have been developed to support garden-based learning, learning by doing, and project-based learning theories such as, the Life Lab Science Program in California, the Junior Master Gardener Program (JMG) at Texas A&M University, the Mosaic Gardens community gardening curriculum at Cornell University, UC Davis’ Nutrition to Grow On, and NY state Kids Growing Food (Blair, 2009; Subramaniam, 2002). Curricula for garden-based learning have also been designed for the growing number of urban-farming initiatives for high school youth, such as the Food Project of Boston’s French Fries and the Food System, Food Systems: Youth Making a Difference (The Northeast Network: Food Agriculture and Health Policy Education Program), Discovering the Food System: An Experiential Learning Program for Young and Inquiring Minds (Cornell University), and The Food System: Building Youth Awareness through Involvement (Penn State University, Food Science Department) (Blair, 2009).

### **2.3.1. In-school Garden-based Learning**

Garden-based learning in schools is a growing trend in the United States. For instance, in 1995, California enacted legislation that would fund and support the Garden in Every School Initiative to promote interdisciplinary learning, while encouraging health and nutrition (<http://www.cde.ca.gov/Ls/nu/he/gardenoverview.asp>), and in a 1997 National Gardening Association Survey, it was reported that 3.6 million youth were participating in gardening in schools (Subramaniam, 2002).

School gardens were seen as a valuable way to engage children in learning as far back as the 17<sup>th</sup> century, when philosopher Amos Comenius first proposed that a garden should be in every school. Other 17<sup>th</sup> century philosophers such as Rousseau, Pestalozzi, and Froebel advocated that school gardens are a necessary tool for children to observe and interact with nature (Desmond et al., 2004). In the effort to provide “experiential learning” for children, German educator Friedrich Froebel in 1837 called children’s gardens, “kinder garten”, and thus a term that has found its way into the American educational system (Shair, 1999).

20<sup>th</sup> century philosophers, such as Maria Montessori, John Dewey, and Mahatma Gandhi, believed in the philosophy that school gardens stimulate sensory learning, observation, and connect youth to the value of agriculture and science throughout the span of human history. While Europe and Australia began establishing school garden initiatives in the early 1800s, it wasn’t until Henry Lincoln Clapp returned from a tour of European school gardens that the United States became actively involved in installing school gardens. George Putnam School in Massachusetts is the site of the first school garden in America, developed by Clapp. Soon after, the School Garden Association of New York, directed by Van Evrie Kilpatrick proposed school gardens as a necessity to provide fresh air and beauty for urban children (Sealy, 2001; Subramaniam, 2002).

Inspired by the European movement, in North America by 1918, “every state and every province in Canada had a school garden” (Subramaniam, 2002). As technology and urbanization were on the rise, school gardens were seen less as a means of academic instruction (Shair, 1999). School gardens were popular at the dawn of the 20<sup>th</sup> century when agrarian culture was thriving. Agriculture was a part of survival and seen more as a necessary function to provide food, rather than an educational philosophy. As American culture changed, cities grew, and fewer families

lived off the land, the need for food and agrarian knowledge was in less of a demand (Blair, 2009; Williamson, 2002).

In a review of school gardens' effects on students and schools, Ozer suggests that the majority of school gardens are for teaching science, environmental literacy, and sustainability (Ozer, 2007). Gardens are being seen as a way to promote healthy living and nutrition education. Due to the current obesity crisis, however, Ozer suggests that school gardens themselves be seen as a "systemic intervention" with a means to facilitate "healthy and well-being" and "positive youth development" (Ozer, 2007). Vegetable gardens are also being used to teach students about the local, national and global food systems (Blair, 2009). Smith found that using hands-on gardening activities from the first four lessons of the Junior Master Gardener Curriculum to teach science had positive effects on science achievement scores of 5<sup>th</sup> grade students (n=62) in Louisiana (Smith and Motsenbocker, 2005). In a mail-out survey to fourth-grade California teachers that use school gardens, 47% of the 592 respondents used the garden to teach nutrition and find the garden somewhat to very effective in encouraging healthy eating behaviors (Graham and Zidenberg-Cherr, 2005). In a survey representing 43% of school gardens in California, 4,184 out of 9,805 principals reported the main function of their school garden was academic achievement (Graham, 2002). Ninety-five percent of the schools used the garden to teach science most frequently, while environmental studies were taught 70% and nutrition 60% of the time, followed by language arts (60%), and math (59%)(Graham et al., 2005).

### **2.3.2. After-school and Community Garden-based Learning**

Gardening and agriculture have also been the foundation for many successful state and government initiatives involving the development and education of youth in after-school and community programs (Welsh, et al.,1999). The USDA 4-H program began in the 1900s with the foundation of four principles for educational, fellowship, physical and moral youth development



all of which included the learn by doing philosophy. 4-H programs can be found in 50 states engaging over seven million rural, urban, suburban youth five to twenty years of age. 4-H projects encompass biological science education, environmental education, leadership, life-skills and job training, and citizenship (Kress, 2006). The 4-H program expanded in 1999 when the Cooperative Extension Service of the U.S. Department of Agriculture began a “hands-on” international gardening program, called the Junior Master Gardener Program (JMG). The JMG Program was released by Texas A&M University as a 4-H project and teaches horticulture science, gardening skills, environmental stewardship, and leadership through an integrated hands-on, service-learning model (Welsh et al., 1999). The JMG program offers three curricula to be used by program leaders, Level 1 Core JMG Curriculum, Level 1 Golden Ray Series Curriculum – Health and Nutrition from the Garden (Genzer et al., 2001), and Level 2 JMG Core Curriculum – Operation Thistle: Seeds of Despair.

In 2003, JMG Program implementation research shows that over 970,000 youth nationally and internationally and 850 school districts have been involved in the JMG program. Students involved in the program activities have the opportunity to receive certification at the completion of the program. Over 27,600 youth in all fifty states, including ten foreign countries sought JMG certification in 2004. An ethnic breakdown of the 27, 600 youth reveals the JMG program is serving: 52% Caucasian, 26% Hispanic, 18% African-American, 2% Asian or Pacific Islander, and 1% American Indian (Boleman and Cummings, 2004).

In 2004, a web-based survey of JMG program coordinators and youth participants was conducted using a five-point Likert-scale to establish the value and effectiveness of the JMG curriculum. Of 442 respondents, the most frequent users of the JMG curriculum were public school teachers at (26.5%), followed by cooperative extension employees at (20.9%), and master gardeners at (12.2%). The rest of the respondents were a combination of 4-H leaders, parents,

and other educational program leaders. Almost 44% of respondents reported using the curriculum in the classroom, while 32.4% used the curriculum in after school programs and 26.0% in youth clubs. Other audiences included home school groups, botanical gardens, and juvenile detention centers. Clearly the JMG curriculum serves a large audience and is used in multiple in-school, after-school and community youth programs (Dirks and Orvis, 2005). More than two-thirds of respondents agreed or strongly agreed with statements that participants showed improved teamwork skills, personal responsibility, enthusiasm for learning, and interest in community service projects outside of the classroom. Respondents also observed improved nutritional attitudes of youth and a higher frequency of trying new fruits and vegetables (Boleman and Cummings, 2004).

### **2.3.3. Community Gardens and Urban Agriculture**

Community gardens in urban areas have positive health benefits by improving access and nutrition for participants (Cyzman et al., 2009; Irvine et al., 1999; Marsh, 1998; Patel, 1991; Twiss et al., 2003; Wakefield, et al. 2007; Williamson, 2002) Nutrition education coupled with a gardening program can impact youth's nutrition choices and snack preferences, which could lead to an increased intake in fruits and vegetables (Robinson-O'Brien et al., 2009). Various cities across America are engaging youth in programs focused primarily on growing and selling food. For instance, the Youth Farm Market Project (YFMP), East New York Farms and Added Value in Brooklyn, NY, offer youth a summer job growing and selling vegetables in their neighborhood, while also training in life and business skills. These programs offer youth an opportunity to engage in productive, income-earning activities in their neighborhoods as opposed to drug or crime activity. At the same time, urban agriculture programs could have a positive impact on the nutrition choices of youth participants. Urban agriculture programs may be an important way to engage teens in nutrition education and healthy choices that could positively

impact their lifelong health (Lautenschlager and Smith, 2007a; Lautenschlager and Smith 2007b).

The Food Project (FP) in Boston, MA began in 1991 with the vision of Ward Cheney to use sustainable agriculture to link youth and adults with each other and with the land. The Food Project uses agriculture as a tool to create community and foster a sustainable food system. The program serves several hundred racially, ethnically, socioeconomically diverse teens per year from urban and rural communities. Each year, it is estimated that the Food Project grows approximately a quarter million pounds of food on 31 acres in Lincoln, MA and on several urban farms within the city of Boston. The Food Project also runs a Community Supported Agriculture (CSA) membership program, a farmers market, and makes a fresh salsa value-added product. The goal of the program is to engage youth in teamwork and leadership development while growing food for local soup kitchens and area residents. The FP grows healthy food while fostering healthy youth development, experiences, and leadership opportunities. The youth garner a series of skills ranging from small-farm business, culinary, and public speaking. The program also aims to address personal and societal stereotypes by teaching respect, diversity, building relationships, and bringing awareness to larger social problems like environmental stewardship and health issues. The FP brings urban and suburban youth together. The program has grown from a mere 2.5 acres in 1991 to its present 31 acres (The Food Project, 2009).

East New York Farms! (ENY!) was founded in 1995 with the goal of providing fresh food, youth programming, and business opportunities in the East New York, Brooklyn neighborhood. Local and municipal organizations created a community development strategy that would employ youth by growing food and creating a farmers market where other community gardeners could sell their produce. The ENY! Farmers Market has a goal of increasing fruit and vegetable consumption while increasing access for healthy choices in a neighborhood with

limited access to fresh produce. The market produce is provided by the ENY! Youth Internship program, community gardeners and three upstate NY farmers. The market accepts Women, Infants, and Children coupons (WIC), senior farmers' market coupons, and wireless Electronic Benefit Transfer (EBT). The youth internship is available for 20 neighborhood teens, 13-15 years of age, to learn urban farming and leadership skills. The youth manage a half-acre urban farm, while learning science, math, teamwork, and assisting local community gardeners with food production (East New York Farms, 2009).

Added Value is an urban farm and non-profit in the neighborhood of Red Hook, Brooklyn, New York. Its 2.75 acre lot used for food production and youth employment is leased from the New York City Department of Parks and Recreation. An 8-week summer program and the Added Value Institute during the academic year are programs available for youth 14 to 19 years of age. Youth are paid a stipend for a seventeen-hour work week that includes growing food, selling produce at the Red Hook farmers market, and maintaining the organization website. The program teaches business and life skills while providing the Red Hook neighborhood with fresh and nutritious produce. The organization also operates a CSA program that enables residents to purchase a weekly box of fresh fruits and vegetables (Added Value, 2009).

#### **2.4. Garden-based Nutrition Education Programs**

Preference for fruits and vegetables relates to the potential likelihood of intake (Birch and Marlin, 1982; Birch et al., 1987). School-based garden-enhanced nutrition education programs are being investigated as a means to increase students' knowledge and preference towards fruits and vegetables, however school-based nutrition education programs, as a stand-alone intervention, can positively impact factors that effect dietary intake of fruits and vegetables (Howerton et al., 2007, Robinson-O'Brien et al., 2009). The school environment, already an institution for learning, encompasses physical and social factors, which could potentially have a

positive effect on the dietary patterns of youth. Reynolds and colleagues, using the Social Cognitive Theory as a model, gathered data from 414 third-grade students to measure which of five predictors influenced consumption of fruits and vegetables the most (Reynolds et al., 1999). The five predictors were knowledge, availability, modeling, nutrition education, and motivation, which specifically refer to self-efficacy, outcome expectancies, and food preference. The study concluded that availability and motivation were the most frequent determinants of fruit and vegetable consumption compared to the other predictors (Reynolds et al., 1999).

Story suggests changing school environments as a potential obesity prevention measure by increasing opportunities for physical activity and fruit and vegetable availability (Story et al., 2006). The social interaction of the school environment provides an opportunity for positive peer support, which according to the Social Cognitive Theory, can potentially change dietary behavior. Peer-intervention in school-based nutrition education has been shown to increase the fruit and vegetable intake of adolescents (Story et al., 2002). In a study of seventh graders (n=1000) across eight different schools receiving a nutrition-education intervention over the course of two years. Peer-leaders guided fellow students during ten classroom sessions of small-group discussions, hands-on activities, and food preparation. Other intervention objectives aimed to educate family dietary choices and to alter the school environment by creating healthier food choices in vending machines and at after-school sports (Story et al., 2002). Results of the intervention show a high approval rate among peers and teachers.

School-based nutrition education programs generate a moderate increase in consumption of fruits and vegetables of youth. In a study of school-aged children (n=8,156) with the results pooled from seven in-school nutrition education interventions, the results showed a 19% increase in fruit and vegetable intake. Programs which were evaluated were: Integrated Nutrition Project (INP), Colorado 5 a Day, California's 5 a Day Power Play!, Gimme 5, CATCH, Minnesota's 5 a

Day Power Plus, and Alabama High. The studies had similar research goals and used a nutrition-based intervention for elementary school children, thus the resulting statistics could be pooled. Each study, however, used various instruments to measure fruit-vegetable consumption at baseline and follow-up. These results imply that school-based nutrition interventions can potentially increase fruit and vegetable intake (Howerton, et al, 2007).

A literature review of eleven studies regarding garden-based nutrition interventions found that although the cumulative research indicates garden-based nutrition programs have the capability of increasing fruit and vegetable intake, more research quantifying the effects of these programs is needed (Robinson-O'Brien et al., 2009). The review demonstrates a trend towards using garden-based nutrition interventions in various environments involving youth. The review suggests a multi-pronged approach towards nutrition education. Garden-based programs are not only used in-schools, but are also used to engage youth in after-school activities, clubs, and in community programs, like the 'Summer Experience' program model (Robinson-O'Brien et al., 2009).

#### **2.4.1. In-school Garden-based Nutrition Education**

School gardens are increasingly used as a tool to teach nutrition education and quantifying the impact of school garden projects has therefore become important (Robinson-O'Brien et al., 2009). The research presented here analyzes garden-based nutrition education interventions, however, several programs evaluate the impact of solely a gardening intervention on nutrition knowledge, preferences, and attitudes toward fruits and vegetables. The interventions spanned from three to twelve months and lasted from 30 minutes to one hour weekly. Two separate studies found positive impacts of fruit and vegetable intake for students exposed to a gardening intervention from three to twelve months (Ratcliffe, 2008; Somerset et al., 2009). Seven other studies measuring an intervention combining gardening and nutrition

education in school settings, found that interventions spanning 3-8 months had the potential to increase fruit and vegetable intake (Nolan, 2005; Parmer et al., 2009; Robinson-O'Brien et al., 2009). The majority of the interventions occurred weekly or bi-weekly from 30 minutes to 1 hour. Presented first are a series of in-school gardening programs, followed by in-school garden-based nutrition education studies, along with after-school and community programs primarily engaging youth in garden-based nutrition education.

Somerset and Markwell (2009) evaluated the impact of a 12-month school-based garden program on attitudes and identification skills of fruit and vegetables of 4<sup>th</sup> – 7<sup>th</sup> graders (n=120). Fourth through seventh grade students (n=120) attending schools in a low socio-economic area showed an increased capacity to correctly identify different fruits and vegetables, as well as displayed increased skills in food preparation after the 12-month school-based food garden intervention program. One school was used for the control and one for the intervention over the course of 2 years. The control group of 4<sup>th</sup>-7<sup>th</sup> graders (n=132) was surveyed the month prior to the garden installation at the school, and the treatment group (n=120) was surveyed twelve months prior to the school garden treatment. An outside garden coordinator was hired to manage the garden, develop weekly activities for the intervention group, and integrate aspects of the garden into the established curricula of the 4-7<sup>th</sup> graders. The garden activities were integrated into all subjects and also included the entire school community and family involvement. No specific nutrition education component as part of the intervention. The garden curriculum included physical aspects of maintenance, however students were also involved in many leadership, educational, and community outreach roles that the garden provided. Students were involved in the design and building process of the 20x20m garden, and also planted, maintained, and harvested the produce on a weekly basis. Food preparation, sharing recipes, eating and catering special events were other aspects of the garden activities. Other activities included

writing articles, giving garden tours and workshops, organizing family garden days and market days. Two questionnaires were used to evaluate the garden experience for the youth. One survey instrument asked a series of thirty-eight questions regarding attitudes about fruits and vegetables, using a 3 point Likert scale. The attitudes questionnaire was developed for the study, adjusted from and based upon a previously used, validated study of Australian elementary-school children. The attitudes survey asked a series of questions covering attitudes, self-efficacy, preferences, knowledge, social environment i.e. peers, and physical environment, i.e. home, regarding fruits and vegetables. As a result of the intervention, more children felt vegetables tasted good in grades 4<sup>th</sup> through 6<sup>th</sup>, and more children said they liked to eat vegetables everyday in grades 4<sup>th</sup> through 6<sup>th</sup>. Fewer students in 7<sup>th</sup> grade felt vegetables tasted good after the intervention, and the majority (47%) responded that they ‘sort of’ liked to eat vegetables everyday. Interestingly, grades 5 and 6 reported hating cooked vegetables after the intervention at 40% and 38%. The second survey tested the correct identification of thirty-one fruit and vegetables, and following the intervention, fourteen of the thirty-one food choices had significant increases ( $p \leq 0.001$ ) in student recognition. This research shows that a curriculum largely focused on gardening, with several cooking lessons, can positively impact students’ identification of vegetables, but minimally impact their preferences and intentions to eat them daily (Somerset and Markwell, 2009).

Ratcliffe evaluated the impact of a four month, garden-based school program on the vegetable consumption and preferences of sixth-grade students ( $n=236$ ) (Ratcliffe, 2008). Two intervention schools were involved in weekly, thirty-minute gardening activities, including growing and maintenance of the garden, as well as the opportunity to eat vegetables harvested from the garden, while one control school was not involved in gardening. With the treatment group, the garden was used as a tool to teach science and health lessons. Survey instruments



included a pre-post Garden Vegetable Frequency Questionnaire (n=236), and a taste test (n=161). The data showed that factors affecting consumption of fruits and vegetables were influenced by the gardening intervention. Examples of factors affected are: recognition of vegetables, attitudes and preferences, and willingness to taste new vegetables. Monthly self-reports of vegetable consumption was influenced by the gardening intervention, as well as an increase in the intake of multiple vegetable varieties at school. In summary, the students being taught health and science lessons in the garden exhibited an increased preference for vegetables and increased consumption compared to the control group (Ratcliffe, 2008).

Parmer and colleagues evaluated the impact of a 28 week school-garden and nutrition education intervention of second grade students (n=115) from one elementary school (Parmer et al, 2009). Six second grade classes were chosen and divided into three treatment groups: two receiving in-class nutrition education (n=37), two receiving in-class nutrition education and a gardening component (n=39), and two classes served as a treatment group (n=39). The nutrition education component was a bi-weekly one hour, in-class lesson, which included fruit and vegetable tastings. Curriculums used were Pyramid Café 5 and Health and Nutrition from the Garden. The nutrition education and gardening group alternated weeks between a one hour lesson in nutrition education or one hour of outdoor gardening lessons. Gardening lessons included adult-supervised planting of vegetable seeds, transplants, such as lettuce, carrots, broccoli, spinach and cabbage, weeding, watering and the maintenance of a school garden. Students harvested the vegetables to make a “Party Confetti Salad” at the end of the intervention. Data were compiled through three separate instruments: a fruit and vegetable survey, a fruit and vegetable preference questionnaire, and thirdly, observations of lunchroom food choices, and student ratings of taste-tested food items. Both treatment groups displayed statistically significant improvements in their knowledge, preference and taste ratings regarding fruits and vegetables

( $p \leq 0.001$ ). The nutrition and gardening group rated carrots, broccoli, spinach and cabbage significantly higher ( $p \leq 0.001$ ) in a taste-test after the 28 school-garden intervention, in which those crops were grown. At post-assessment, the garden and nutrition education treatment group showed more likeliness to select and eat vegetables in a lunchroom setting more than the nutrition education only treatment group or control group. Parmer found that students exposed to gardening lessons combined with nutrition education were more likely to taste vegetables in the cafeteria (Parmer et al., 2009).

In order to evaluate the effect of an in-school, garden-based nutrition education program on fruit and vegetable consumption, McAleese and Rankin, surveyed fruit and vegetable intake of sixth-grade students ( $n=70$ ) who were involved in a 12-week garden-based nutrition education program (McAleese and Rankin, 2007). Two Idaho elementary schools were used as the treatment group, and a third Idaho elementary school was used as the control ( $n=25$ ). One intervention school received only nutrition education ( $n=25$ ), while the second intervention school received nutrition education and gardening ( $n=45$ ), however both used the curriculum *Nutrition in the Garden* by Lineberger (Lineberger, 1998). The nutrition education and gardening treatment group maintained and harvested from a 25x25 garden with strawberries, herbs, and various fall vegetable crops, such as potatoes, corn, peppers, peas, beans, spinach, lettuce, tomatoes, broccoli, and cantaloupe. Other activities included “add a veggie to lunch day”, making salsa and a cookbook, and drying herbs. A series of three pre and three post intervention 24-hour recall journals was given to all three groups. Twenty-four hour recall workbooks include instructions and illustrations detailing portion size to encourage accurate self-reporting. The use of 24-hour recall workbooks is another method of assessing change in snack preference, in which students write about their experiences the day after engaging in an activity or lesson. The students participating in garden-based activities, showed through their 24-hour

food recall workbooks, significant increases in their consumption of fruits and vegetables from 1.93 to 4.50 servings per day, vitamin A ( $p \leq 0.004$ ), vitamin C ( $p \leq 0.016$ ), and fiber ( $p \leq 0.001$ ). Neither the control nor the nutrition education only intervention school showed significant increases in fruit, vegetable, vitamin A, vitamin C or fiber intake. These results showed the importance of hands-on activities when attempting to change nutrition-related behavior such as fruit and vegetable consumption (McAleese and Rankin, 2007).

Nolan evaluated the effects of a nutrition education and gardening curriculum and program on the knowledge, attitudes, and preferences of second through fifth grade students ( $n=141$ ) regarding fruits and vegetables after a seven month in-school intervention (Nolan, 2005). Teachers volunteered from nine classrooms in four different schools in Hidalgo County, Texas. A six day training for teachers was held using the Junior Master Gardener curriculum guide Health and Nutrition from the Garden (Genzer et al., 2001), which they incorporated into school-garden activities. The horticulture-based curriculum covers the basic concepts of gardening and nutrition, while providing six hands-on activities ranging from planting, cooking, crafts and games, with worksheets and discussion topics provided for follow-up.

Data were collected through a fall pre-test and a spring post-test. The three part Fruit and Vegetable Questionnaire was used to measure knowledge, attitudes, and snack preferences. This survey has been used in at least three studies measuring nutrition impacts due to students' participation in in-school, and out of school garden programs (Cullen et al., 1997; Domel et al., 1993b; Lineberger, 2000). Significant changes in pre-tests and post-tests were observed for all three variables and further investigation analyzed each section by gender, ethnicity, grade level, and school. The results indicated second graders had the most significant increase in knowledge by 2.3 points, fourth graders by 2.0 points, third graders by 1.9 points and fifth graders with the smallest increase of 0.4 points. There were no differences by gender, however ethnicity showed

the most knowledge increase by white students with a 2.5 point increase, followed by African-American students with a 1.6 point increase, Hispanic with a 1.5 increase and other ethnicities with a 1.3 point increase. The attitude section showed no difference in increase by gender; however Hispanic ethnicities increased the most, followed by Caucasian and other ethnicities, while African American students' attitudes decreased. 2<sup>nd</sup> graders showed the most increase in the attitude section with a 1.4 increase, fourth graders with a 0.8 increase, and 3<sup>rd</sup> through fifth graders with less than a 0.5 point increase. The snack preference section by gender showed males increased more by 2.1 points, while female only by 2.0 points. By ethnicities, Caucasian increased by 3.3, African-American by 3.0, other ethnicities by 2.3 and Hispanic by 1.8. Fourth graders showed the most improvement with a 3.0 point increase, 2<sup>nd</sup> with a 2.5 increase, 3<sup>rd</sup> with a 2.5 point increase, and fifth graders with a 0.4 point increase (Nolan, 2005).

Morris and Zidenberg-Cherr (2002) assessed the impact of a seventeen-week in-school, garden-based nutrition education intervention for fourth grade students (n=213) from three California schools. Each school had three separate classes involved in the program. The control school (n=61) received neither nutrition education nor gardening activities. One treatment school (n=71) received only nutrition education in-class on a bi-weekly basis, while the other treatment school (n=81) received the in-class nutrition education along with a gardening component. The nutrition education component for both treatment groups, based upon the Social Cognitive Theory, involved nine sections covering the Food Guide pyramid, plant parts and the nutrient content of food, reading food labels, exercise, shopping habits, and goal setting. The garden-based nutrition education group received additional complimentary horticulture lessons in the garden, such as planting seeds, identifying weeds, working with insects, worms, butterflies, and harvesting vegetables. Students were able to plant and harvest their own vegetable gardens. Using validated methodology, pre-tests were given in the fall before the

intervention and post-tests were given in the spring following intervention, including follow-up surveys to measure retention rates 6-months after the intervention. To measure nutrition knowledge, 30 multiple-choice questions were asked pertaining to the goal of each lesson. Nutrition knowledge increased significantly for both the nutrition education only treatment group, and the combined nutrition and gardening treatment group compared to the control group ( $F=24.238$ ,  $p\leq 0.0005$ ). The 6-month follow-up survey showed that the nutrition knowledge was sustained for both treatment groups ( $F=18.270$ ,  $p\leq 0.0005$ ). To measure preference, students were given an actual taste test and asked to rate their preference on a scale of 1-5, for 6 different vegetables, (carrots, broccoli, spinach, snow peas, zucchini, and jicama). The students exposed to gardening scored significantly higher for vegetable preference than the nutrition only and control group for snow peas and zucchini. Both the treatment groups, however, preferred carrots and broccoli significantly higher than the control group. Six months after the intervention, the garden treatment group maintained a high preference for broccoli, snow peas, and zucchini. No significant change was seen for any of the three groups in terms of willingness to try the vegetables. Nutrition knowledge and vegetable preference significantly increased at the two schools participating in nutrition and gardening education compared to the control group. The results were maintained at the 6 month follow-up, indicating that the nutrition education program had an ongoing effect on students' nutrition knowledge. Students specifically increased their preferences for carrots, broccoli, snow peas and zucchini (Morris and Zidenberg-Cherr, 2002).

In 2001, Morris et al., evaluated the effect of a garden-based nutrition education curriculum for first grade students ( $n=97$ ) over the course of eight months on vegetable preference, nutrition knowledge, and willingness to taste vegetables (Morris et al., 2001). Two California elementary schools were chosen for the study, one served as the treatment group, receiving nutrition education lessons and gardening activities, and one served as the control

group. The treatment group planted, grew and maintained a school garden in the fall and spring, growing spinach, carrots, peas, and broccoli. The control school was not exposed to nutrition education or gardening. The Social Cognitive Theory outlined the basis for the nutrition education curriculum. Fall pre-test interviews were conducted and analyzed with spring post-test interviews for vegetable preferences and willingness. A previously used methodology of taste-testing was used. Vegetable preferences did not improve for either the intervention or the control group. Following intervention, however, there was a more significant willingness for students in the garden-based nutrition education group to try spinach, carrots, peas, broccoli, zucchini, and red bell peppers ( $p \leq 0.005$ ). Nutrition knowledge of food group identification increased in the intervention group, however, there was no difference in the group's capacity to accurately identify vegetables (Morris et al., 2001).

Lineberger and Zajicek measured the impact of a one year nutrition education, gardening, and cooking intervention program on the fruit and vegetable intake and preferences for third through fifth grade students ( $n=111$ ) in Texas (Lineberger and Zajicek, 2000). Students from five different elementary schools were chosen to participate in the ten unit curriculum intervention presented and adapted to the classroom by the teacher. The study evaluated the curriculum, Nutrition in the Garden (Lineberger, 1998), as well as the students' nutritional responses after participating in specific garden activities. To measure students nutritional attitudes towards fruit and vegetables, the instrumentation used was a three part Fruit and Vegetable Questionnaire (Baranowski et al., 1997), and 24-hour recall journals. The Fruit and Vegetable questionnaire asks students to rate thirty common fruits and vegetables on a Likert-scale of 2= I like this a lot, 1= I like this a little, and 0= I do not like this. The second section of food preference questions gives a choice between a fruit or vegetable and another type of snack, not fruit or vegetable. Students choose one and are given points according to the snack.

Twenty-four hour recall journals were used to measure students nutritional behaviors regarding fruits and vegetables which pre-test and post-test evaluation showed no difference. Following intervention, significant differences were found with students' preference towards vegetables, however, not towards fruit. Pre-test scores showed students had a high preference for fruit originally, and researchers speculate that due to no exposure to growing fruit in the garden, a preference change should not necessarily be expected. An increase was also noted in students' tendency towards choosing a fruit or vegetable snack after participating in the garden program. Third-grade students increased their snack preference score significantly compared to the 4<sup>th</sup> and 5<sup>th</sup> grade students. Females had higher fruit and vegetable preferences at pretest and at posttest compared to the male students (Lineberger and Zajicek, 2000).

Cason assessed the influence of an in-school gardening and nutrition education program on first grade students' willingness to taste and correctly identify fruits and vegetables and found that willingness increased by 69%, while identification of fruits rose from 52% to 94% and identification of vegetables went from 43% to 86% (Cason, 1999). The students were exposed to 30 minutes a week of nutrition education, which consisted of tasting fruits and vegetables, and also increasing culinary skills by preparing food. The students, in groups of ten, were exposed to a gardening component of thirty minutes a week. The intervention team consisted of school teachers, administrators, community and extension professionals which could potentially impact the long-term sustainability of the garden on the school grounds (Cason, 1999).

While the school has been observed as an institution in which systemic change is possible to positively affect the health behaviors of children, after-school and community programs, which expose youth to positive peer modeling are also potentially the site of altering factors that affect fruit and vegetable intake (Auld et al., 1998; Libman, 2005; Lowe et al., 2006; Horne, 2004).

#### **2.4.2. After-school and Community Garden-based Nutrition Education**

School gardens in the United States are being used for in-school, as well as after-school enrichment activities like garden clubs (O'Brien and Shoemaker, 2006). Using the Social Cognitive Theory as an assessment tool, O'Brien and Shoemaker measured the impact of an after-school garden club for fourth graders, from two Kansas elementary schools, on their nutrition knowledge, and preferences for fruits and vegetables. The self-efficacy and intentions to consume fruits and vegetables prior to the program using a treatment group (n=17) and a control group (n=21) were also measured. Hands-on gardening activities were facilitated for 30 minutes a week, along with an eight lesson curriculum of gardening and nutrition, and a healthy snack. Survey questions were based on earlier statistically valid research. The study found no significant differences in nutrition knowledge or preference between fourth grade students participating in the gardening club and those in the control group. Baseline scores were high for nutrition knowledge and vegetable preference for both groups, however, not enough to be statistically significant. Fruit and vegetable self-efficacy increased for both groups. O'Brien and Shoemaker suggest more research be done to distinguish and measure the various dimensions of gardening and if, for instance, growing particular vegetables or the action of harvesting crops has more of an impact on promoting fruit and vegetable consumption (O'Brien and Shoemaker, 2006).

Herman and colleagues (2006) evaluated the impact of an after-school gardening program with program goals of increasing vegetable intake, but also promoting gardening as a physical activity (Herman et al., 2006). The study engaged rural, Oklahoma students (n=43) in 3<sup>rd</sup> – 8<sup>th</sup> grade in a ninety minute after-school program once a week including hands-on gardening and nutrition activities like planting, harvesting and cooking vegetables. This program aimed to be culturally inclusive by creating a “three sisters” garden, (corn, beans, squash) which



represented Native American history. Approximately 75% of the students in the treatment group were Native American. The garden coordinator used a combination of curriculums like, Texas A&M Junior Master Gardener curriculum, New York state's Ag in the Classroom, and USDA's Team Nutrition. In response to the question, "I eat vegetables every day" for both pre-test and post-test, the survey found an increase from pretest score of 21% to posttest score of 44% ( $p \leq 0.02$ ). Family and community support aided the installation and development of the school garden, which later allowed for the purchase of a greenhouse (Herman et al., 2006).

Poston, Shoemaker and Dzewaltowski (2005), using the basis of the Social Cognitive Theory, compared the impact of an after-school gardening and nutrition program on the nutrition knowledge, preferences for fruits and vegetables, gardening self-efficacy and nutrition self-efficacy of 3<sup>rd</sup> – 5<sup>th</sup> graders ( $n=39$ ) enrolled in a Boys and Girls Club (Poston et al., 2005). The Junior Master Gardener (JMG) Series: Health and Nutrition in the Garden, incorporates gardening and nutrition activities, was used with 17 students, while the second curriculum, Professor Popcorn (PP), focuses primarily on nutrition, had 11 students. The JMG group was exposed to an 8 week intervention, nutrition and gardening lessons for 20-60 minutes per week, gardening for 10-15 minutes per week, and a healthy snack every week. The PP group experienced a 5 week intervention, nutrition lessons lasting 30-60 minutes per week, and a healthy snack every week. Data were taken in two consecutive seasons, summer and fall, comparing the effectiveness of two nutrition education curricula. Neither curriculum improved nutrition knowledge or preferences for fruits and vegetables. A positive change in gardening self-efficacy was observed in the Junior Master Gardener students enrolled in the summer program ( $p \leq 0.10$ ), however no change was noted in the JMG fall students ( $p \leq 0.05$ ), or the Professor Popcorn students. The authors indicated that program effectiveness could have been

hampered by the small sample size and limited exposure to the gardening intervention (Poston et al., 2005).

Limited research has been done to evaluate the impact of urban gardening programs on youth health and nutrition, moreover, more studies are needed. These studies showed a positive impact on youth nutrition and food choices; however, more quantitative data documenting these trends in behavioral change are needed. The most recent study by Heim and colleagues (2009) improved factors associated with fruit and vegetable consumption of fourth through sixth graders (n=93) following a 12-week summer camp. Participants were involved in gardening activities twice a week, along with fruit and vegetable taste tests and snack preparation. The intervention also included sending parental newsletters home. Children reported enjoying the gardening and taste-testing activities and post-test data showed an increase in consumption of fruits and vegetables ( $p<0.001$ ), preference for vegetables ( $p<0.001$ ) and requesting fruit and vegetables in the home ( $p<0.002$ ) (Heim et al., 2009).

Lautenschlager and Smith (2007b) researched the fruit and vegetable consumption following a ten week, inner-city gardening program on youth (n=96 pre, n=66 follow-up), age 8-15 years. Youth were involved in the Youth Farm Project in Minneapolis, MN, which included nutrition education, gardening, cooking. Several methods of data collection were used, one was a pre-test and post-test 24 hour recall journals. In addition, investigators developed questions to identify and measure attitudes and behavior regarding fruits and vegetables based upon the Theory of Planned Behavior. The Theory of Planned Behavior is an expectancy model used to analyze beliefs that impact health decisions and behavior. Sample questions include, “How many pieces of fruit did you eat yesterday?” and “How many vegetables did you eat yesterday?” Mean scores for fruit and vegetable intake revealed that boy’s fruit intake rose ( $p=0.029$ ) by one serving, from 2.0 to 3.0 servings, and vegetable intake rose ( $p=0.027$ ) by 1.4 servings, from 2.0

to 3.4. Girls intake of fruits and vegetables did not increase from baseline to posttest (Lautenschlager and Smith, 2007b; Robinson-O'Brien et al., 2009).

In another study using youth involved in the Minneapolis Youth Farm Project (YFP) (n=26), Lautenschlager and Smith (2007a), compared the attitudes and thinking of cooking, nutrition, and food production with other inner-city youth from the same neighborhood (n=14), however not involved in the YFP (Lautenschlager and Smith, 2007a). Qualitative data were compiled using focus groups and questions developed based on the Theory of Planned Behavior. Investigators found that the students involved in YFP had a greater interest in gardening, eating healthy, cooking, tasting ethnically diverse food, and valued the diversity of people and cultures more than the youth not involved in YFP (Lautenschlager and Smith, 2007a; Robinson-O'Brien et al., 2009).

Social interaction lends itself to internalization and skill development, Libman (2005) used focus group discussions to observe if peer interaction in gardening activities impacts student interest in food and nutrition. Youth participants (n=16) in a summer children's garden at the Brooklyn Botanic Garden met for six weeks, three days a week, during the summer. The program involved daily gardening activities and included cooking and science education. Although cooking produce from the garden was an activity, nutrition education was not specifically a motivation in the curriculum. After conducting focus groups and interviews, Libman reported positive impacts on youth attitudes towards trying new foods, specifically vegetables, due to the experience of growing their own food and the social interaction that takes place while growing vegetables. The social skills involved in the entire process from planting to harvesting further supports evidence that gardening can positively affect nutrition habits. The study suggested if students experience positive emotions while involved in group activities regarding food, they may continue to make healthy food choices in the future (Libman, 2005).

This study supports similar findings that find that peer-modeling and positive peer-experiences, in gardening and nutrition interventions, can increase fruit and vegetable consumption (Lowe et al., 2006). Group cohesiveness has been noted as a result of youth being involved in plant-stimulated activities (Bunn, 1986).

Koch and co-workers found that knowledge significantly increased regarding the benefits of eating fruits and vegetables for 3<sup>rd</sup> – 5<sup>th</sup> grade students (n=56) following a gardening and nutrition education intervention. The study also aimed to measure attitudes and behaviors regarding fruits and vegetables. One hundred and thirty-five youth participated in a summer program based on activities from the curriculum, Health and Nutrition from the Garden (Genzer et al., 2001) in four counties in Texas. However, the final sample size only included 56 youth who completed both pre-test, mid-test, and post-tests. Twelve activities were facilitated by program leaders of the Better Living for Texans (BLT) Program, in the six subject categories ranging from basic and thrifty gardening, to the ABC's of healthy eating, snacking and food safety (Koch et al., 2006). The twelve activities focused on gardening, the dietary suggestions of the MyPyramid and shopping on a budget. The nutrition surveys consisted of three sections: Knowledge, Fruit Preference, and Snack Preference. Using paired t-tests, the study found that the most significant change was in students' knowledge of fruits and vegetables, and no change was found in students' preference for fruits and vegetables while participating in the program. The analysis showed that students' preference scores were high however, they were not statistically significant (Koch et al., 2006).

Pothukuchi and colleagues found that youth involved in a community-based gardening and nutrition program showed an increased interest and enthusiasm for fruits and vegetables (Pothukuchi et al., 2001). A community health assessment organized by the Urban Health Research Program sought to develop a community youth garden project, named Hortaliza, after a

needs-assessment of a low-income, predominantly Latino neighborhood located in southwest Detroit found that access to fresh food was lacking. The program participants, 6-15 years of age, met from May through October, meeting for one to two hours on Wednesday and Saturdays. Youth were involved in garden design, installation, management, food production and harvesting. Vegetables grown in the garden were eaten as snacks and sent home with youth participants. A combination of formal and informal gardening and nutrition education activities were taught throughout the summer. Data were collected through a series of mechanisms including, pre-test and post-test nutrition and gardening knowledge surveys, fruit and vegetable identification, journals, and pre and post interviews with youth and parents. Only 9 of the original 25 students, completed the program through October. Post-test surveys showed participants could identify more fruits and vegetables, and journal entries indicated youth had a greater knowledge of the nutritional benefits of fruits and vegetables, specifically describing vitamins and minerals associated with particular fruits and vegetables. Parents noted a greater pride in youth when bringing home vegetables they grew. The garden also became a site of neighborhood pride and socialization between youth, and youth and adults. Youth indicated more knowledge about plant and food systems through gardening. Although the sample size was small, quantitative data indicated the youth garden positively impacted knowledge of fruits and vegetables, indicating a potential likelihood of increased fruit and vegetable intake (Pothukuchi et al., 2001).

Wallace studied the effect of a gardening program on the nutrition knowledge of non-violent, African American incarcerated males (n=125) 15-17 years of age in a New York State juvenile detention facility (Wallace, 2005). College students facilitated the “African-American Fruit and Vegetable Garden” which met for a total of 15 weeks, twice a week for 75 minutes sessions. Inmates were taught lessons on gardening maintenance, harvesting, and nutrition

lessons from college students and community professionals. Inmates were given a pre and post test, however the instrumentation used to measure gardening knowledge, nutrition knowledge, and consumption were not provided. Results concluded that fruit and vegetable consumption increased from a 1.25 mean change to a 4.5 posttest score. Gardening knowledge increased from 1.80 to 4.00 mean value, and nutrition knowledge increased from 1.60 to 4.00 (Wallace, 2005).

Blair compared the intake frequency of fruits and vegetables of Philadelphia community gardeners (n=144) with those of a non-gardening control group (n=67) (Blair et al., 1991). The community gardeners were participants in the Philadelphia Urban Gardening Project which involved over 560 garden lots around the city. Oral surveys were taken and asked the frequency with which they ate certain foods, which were categorized as vegetables, fruits, and other foods. Gardeners, compared to the non-gardener control group, reported a more frequent intake of six particular vegetables, particularly ones they grew, for example tomatoes, squash, okra, eggplant, peppers and cole crops, however both groups reported eating comparable amounts of vegetables. Results indicated the fruit and vegetable intake of Philadelphia community gardeners (n=144) and found that they consumed garden-grown food approximately five months a year, while 62% were engaged in various forms of food preservation of their freshly grown and harvested produce (Blair et al., 1991).

## **2.5. Summary of Review**

Garden-based nutrition education is a tool to engage youth in activities of growing, preparing and consuming fresh food. Interventions to increase fruit and vegetable intake must consider environmental, biological, and psychosocial factors. With the rise of urban farms and the influx of people to metropolitan areas, garden-based nutrition education community programs have the potential to not only teach youth about nutrition, but to provide a community with increased food access and availability, which could lead to healthier diets and less disease in

many American cities. More quantitative research must be done to analyze the effects of summer and community based garden-based nutrition programs on the dietary behaviors of youth.

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## CHAPTER 3

### A SUMMER GARDENING AND NUTRITION PROGRAM INCREASES HEALTHY SNACK PREFERENCES IN HIGH SCHOOL STUDENTS

#### 3.1. Introduction

The Summer Experience was an eight-week garden-based nutrition education program designed to teach gardening, cooking, nutrition, business and life skills for inner-city high school students in Baton Rouge, Louisiana. Thirty-three students participated in the program in 2007 (n=18) and 2008 (n=15) and received a stipend at the end of the eight weeks. The study was designed to determine the impact of a summer, hands-on, gardening, cooking, and nutrition program on high school students' knowledge, attitudes, and preferences regarding fruits and vegetables. A three section questionnaire (Appendix B) was used to measure students' nutrition knowledge, fruit and vegetable attitudes and snack preferences. After participation in the program, students' snack preferences significantly improved, however, there were no differences found in participants' nutrition knowledge or attitudes towards fruits and vegetables. The program results suggest that skill building in gardening and cooking may positively impact factors related to the fruit and vegetable intake of inner city high school students.

According to the World Health Organization, 16.7 million deaths were due to a range of cardiovascular disease, and approximates that 2.7 million of these deaths could be prevented if recommendations for fruit and vegetable intake were followed (WHO, 2009). Intake of fruit and vegetables has repeatedly been shown to decrease the probability of developing a chronic disease, such as cardiovascular disease, type 2 diabetes, and cancer (WHO, 2009). Researchers report that both youth and adults do not meet the daily recommendations for fruit and vegetables outlined by the USDA MyPyramid (Casagrande et al., 2007). Obesity in children can lead to chronic diseases as adults, and eating patterns track from childhood into adulthood (Mikkilä et

al., 2005; te Velde et al., 2007; Wang et al., 2001). The increase in childhood obesity and chronic disease in the United States has led to new ways to teach youth nutrition education (Resnicow et al., 2008; Trudeau et al., 1998). Interventions should be considered that expose youth to a variety of food experiences at an early age, which leads to a healthier diet (Cooke, 2007). Neighborhood, home, and school environments are critical to developing healthy eating habits in adolescents.

Research shows that children and adolescents eat more fruits and vegetables when they are provided at home and at school (Arcan et al., 2007; Cullen et al., 2000). School, home and urban gardens are one way to increase access and availability of fruit and vegetables (Nanney et al., 2007; Reinaerts et al., 2007; Robinson-O'Brien et al., 2009). In addition, adults that are involved in community gardens eat more servings of fruits and vegetables on a daily basis, and the more exposure one has to growing food, the more likely one is to consume fruits and vegetables (Alaimo et al., 2008; Bellows et al., 2004). Gardeners eat what they grow because they generally believe it is healthy and cost-efficient (Armstrong, 2000; Patel, 1996; Pothukuchi and Bickes, 2001).

School gardens are an effective way to educate youth about nutrition and health (Herman et al., 2006). Garden-based nutrition education intervention which has been shown to increase youth's preference, attitudes, and knowledge towards fruit and vegetables, however, more empirical evidence is needed (Heim et al., 2009; Libman, 2005; Robinson-O'Brien et al., 2009). The majority of garden-based nutrition education programs that have been researched are in-school or after-school programs for elementary school children, and very little research exists on summer, community-based programs for high school youth (Heim et al., 2009; Perez-Rodrigo and Aranceta, 2001). With the increase of urban farming employment programs for inner-city youth, more research is needed to measure the effect this has on the factors surrounding fruit and

vegetable intake. A regular intake of fruit and vegetables is shown to be related to uncontrollable environmental factors, such as accessibility, availability, cost, and socioeconomic status (Glanz et al., 1998). Issues surrounding availability of fruit and vegetables involve the proximity to, and availability of grocery stores within a neighborhood, and whether all or some grocery stores sell fruit and vegetables (Bodor et al., 2008). Participants in the current program live in a low-income, neighborhood with limited access to fruits and vegetables, which research indicates can lead to a decreased consumption of fruit and vegetables (Kirby et al., 1995).

The objective of this research was to evaluate inner-city, high school students' preferences for healthy snacks after being involved in an eight-week summer garden-based nutrition education program. Additional objectives of this study were to determine if nutrition knowledge and attitudes towards fruits and vegetables increased after participating in the program.

### **3.2. Design and Participants**

The "Summer Experience" program was designed to provide summer employment to teens living in the Old South Baton Rouge (OSBR) neighborhood. OSBR is a historic neighborhood located between the Louisiana State University and downtown Baton Rouge and bordered by the Mississippi River and Interstate 10. The OSBR population of 9,260 residents was 76% African-American, 15.6% Caucasian, 5.6% Asian, 2.4% Hispanic-Latino, and 2.4% other (Table 3.1.) The median income was \$19,900, which was below the East Baton Rouge Parish median household income of \$43, 323 (U.S.Census, 2007), and below the federal poverty line for 2007 of \$21, 027 (Nord, 2008). Sixty-six percent of OSBR residents rented their homes and 25% reported earning a college degree (Zimmerman/Volk Associates, 2008).

A 2007 report on household food security in the United States, concluded that 11.1% of U.S. households or 13 million households experienced food insecurity (Nord, 2008). Of those 13

million households, 4.7 million or 4.1% experienced “very low food security”. Ninety-four percent of “very low food security” households reported that a lack of money prevented them from eating a balanced meal. More than 90% reported worrying about food running out before their next paycheck, that they ate less because of a lack of money, and that the food they bought was not enough to last until their next paycheck. Food security relates to adequate resources and money to purchase affordable, healthy food to maintain the health of one’s family (Nord, 2008). Residents that experience food insecurity compromise a nutritious diet often with inadequate amounts of fruits, vegetables and fiber, which studies show can be a factor affecting obesity and chronic disease in some populations and women (Adams et al., 2003; Bastios and Lino, 2003; Olson, 1999; Townsend et al., 2001). Research using USDA food security and poverty data, a proportion of OSBR residents most likely experience some sort of food insecurity throughout the year.

**Table 3.1.** 2008 demographic data for Old South Baton Rouge.

<b>Data</b>	<b>Value</b>
2008 Population	9, 260
Median Age	29.8 years
Median Income	\$19, 900
Education	
(College/Advanced Degree)	25%
Median Home Value	\$68, 700
Owner Occupancy	33%
Rentals	66%
Household size	68% are one & two-person households
African American	76%
White	15.6%
Asian	5.6%
Mix	2.4%
Hispanic/ Latino	2.4%

Old South Baton Rouge is considered a food desert because of its limited access to a full service grocery store. There is a relationship between lower rates of obesity and overweight in regard to close proximity to a supermarket (Lopez, 2007; Morland et al., 2006; Powell et al.,

2007; Rose et al., 2009; USDA 2009). Census tracts reveal fewer supermarkets exist in low-income, predominantly African-American neighborhoods, and fruit and vegetable intake is related to the presence of a nearby supermarket (Morland et al., 2002a; Zenk, et al., 2005; Zenk et al., 2006). Access to supermarkets has been associated with a lower intake of fruit and vegetables (Morland et al., 2002b). Cost and transportation are factors in purchasing fruit and vegetables on a regular basis (Glover, 2004; Twiss et al., 2003). Although the area is low-income, access to nutritious food is not an obstacle for residents of OSBR with the means to personal or public transportation. The “Summer Experience” program was designed to teach skills of growing food and cooking to a population that reside in a food desert and that may experience food insecurity at various times during the year.

The program began in 2006 through a unique partnership between leaders in the Old South Baton Rouge (OSBR) community, professors at Louisiana State University (LSU), and the LSU Community University Partnership (CUP). Funding was available through federal grants, local foundations, and contributions from local businesses. Students who were enrolled at McKinley High School in the 9<sup>th</sup> – 12<sup>th</sup> grades, 14 – 18 years of age, and who were residents of the OSBR neighborhood were eligible and were given priority to participate in the program. Students applied for the program and were interviewed in 2007 and 2008. Prior to the program, a parent and student orientation was held at the school library both years. Twenty participants began the 2007 program, however eighteen completed the program (2 males, 16 females). In 2008, 20 students began the program, 18 completed the program (4 males, 14 females).

### **3.3. Program Activities**

The Summer Experience program activities were hands-on and experiential in nature, and a specific curriculum was not used. The program activities included cooking, gardening, manning a farmer’s market, food processing, business and leadership. Another objective of this

project was to engage students in developing a business that involved harvesting, processing, bottling and marketing hot sauce.

Gardening activities included growing, as well as gleaning vegetables from local farmer's fields. Students were responsible for planting, watering, weeding, and harvesting vegetables. Crops planted included potatoes, bell peppers, cayenne and jalapeno peppers, snap beans, peas, okra, sweet corn, squash, cucumbers, watermelon, cantaloupe, and cucumbers.

The produce that was grown or gleaned was sold at the OSBR farm stand and used in weekly cooking sessions. The weekly farm stand located in a church parking lot in OSBR, was held under a portable tent and run by the students. Students were in charge of the farm-stand set-up, display, marketing, and handling cash. The farm-stand was a part of the business skills and development training portion of the program. Beginning in 2006, cayenne and jalapeno peppers were grown on LSU AgCenter property to create a signature, value-added hot sauce product. Peppers were harvested and immediately ground with salt, stored into 5 gallon buckets, and left to ferment for 1 year. The Old South Baton Rouge Hot Sauce was developed as a means to bring income and sustainability to the program.

The LSU School of Human Ecology taught the cooking and nutrition education component of the Summer Experience program, with assistance from LSU service-learning students from a spring course in human nutrition. The curriculum covered lessons in food preparation, portion control, healthy choices, nutrition content, and low-fat, economical recipes. The cooking lab had a complete kitchen with twelve stove-top and sink units, which students use once a week when divided into groups. Each week a new meal was cooked, and each group was assigned a dish to produce within the 4 hour time frame. Students shared a community-style meal with the dishes prepared that day.

The Summer Experience program was comprised of activities that meet the content requirements by the Louisiana State Department of Education under the Louisiana Agriscience, Agribusiness, FFA Framework that aims to train and educate youth for careers and leadership roles in the food, fiber and natural resource systems of Louisiana. The Summer Experience program met benchmarks of in the content strands of agricultural literacy, personal development, agribusiness, plant systems, environmental management, and agricultural processing. (Louisiana, 1999).

### **3.4. Program Delivery**

The eight-week program met three days a week, Tuesday through Thursday from 7am – 12:00 pm. Students participated in the program for approximately fifteen hours a week. Those fifteen hours were divided into five contact hours of cooking and nutrition, five contact hours of horticulture and agriculture training, and five hours of marketing, business, and leadership training.

Program coordinators in 2007 and 2008 consisted of an LSU A&M Horticulture graduate student as program director, an LSU A&M Instructor of human nutrition and food, an LSU A&M Instructor of horticulture, a community affairs liaison for LSU CUP, and Director of Advocates for Change Nonprofit, as well as undergraduate student volunteers. Undergraduate students involved interns, receiving stipends and school credit.

### **3.5. Instrumentation**

The Fruit and Vegetable Questionnaire (Domel et al., 1993)(Appendix B) is divided into three parts measuring nutrition knowledge, fruit and vegetable attitudes, and snack preferences. The Nutrition knowledge section consisted of thirteen multiple-choice questions on topics covered in the Summer Experience cooking lab. The questions cover items such as serving sizes, food groups, nutrition, and health information. Each correct answer was given one point

and each incorrect answer zero points. Possible scores ranged from zero to thirteen points with higher scores indicating a greater knowledge of nutrition information.

The Fruit and Vegetable attitude section consisted of a list of ten fruit and vegetable items which students marked the box which best described their feelings towards each item. Students had three choices from which to describe their feelings towards each item; “ I like this a lot” two points, “ I like this a little” one point, or “ I do not like this” zero points. The answers were scored and results ranged between zero and twenty points. Higher scores signify increased attitudes towards fruit and vegetables.

The snack preference section consisted of ten questions giving students a choice between a fruit or vegetable item and a non-fruit or vegetable, or “unhealthy” snack item. One point was given for each fruit or vegetable snack chosen and zero points were given for choosing an unhealthy snack, for a score range of zero to ten points. High scores indicate a greater preference for healthy snack choices.

### **3.6. Data Analysis**

Testing for the study consisted of a pre-test at the beginning of the 8-week program in June, and a post-test on the second to last day of the program in July of both years. The data collected from the pre-test and post-test scores of the 2007 and 2008 programs were pooled over both years and the test results were subjected to a one-tailed, paired t-test. The sample size for each section of the test, in both 2007 and 2008 varied due to student absence on the pre-test or post-test date and blank answers. Students who left answers blank were omitted from the overall results. Thought was given to keeping the students answers and replacing the blank answer with a zero, however, this would have not impacted the final data and made it more significant.



### **3.7. Results**

#### **3.7.1. Nutrition Knowledge**

Each segment of the Fruit and Vegetable Questionnaire (Domel et al., 1993) was analyzed separately. The nutrition knowledge section ( $p \leq 0.187$ ,  $n= 35$ ) was not statistically different. (Table 3.2.) The most frequently missed questions pertained to serving size or recommended portions of fruits and vegetables.

#### **3.7.2. Fruit and Vegetable Attitude**

The fruit and vegetable attitude section was not significant ( $p \leq 0.283$ ,  $n=33$ ). (Table 3.2.)

#### **3.7.3. Snack Preference**

The snack preference section was significant in ( $p \leq 0.025$ ,  $n=31$ ) (Table 3.2.). The 2007 data reveals that fourteen out of eighteen students increased their preference for a healthy fruit or vegetable snack rather than a non-fruit or vegetable snack. Only one student out of eighteen had no change in preference, and three students had a lower preference for fruits or vegetables by one point. Orange juice was the most preferred item in the fruit category, followed by apples and tangerines. Grapefruit was the least-preferred fruit item on the list. Post-test scores reveal a high preference for lettuce, green beans, broccoli and carrots, and the least preferred vegetables were squash and tomatoes.

### **3.8. Discussion**

The current study resulted in significant increases in participants' snack preferences, however, no statistical difference was found in nutrition knowledge or preference for fruits and vegetables. A positive change towards healthier snack preferences could potentially lead to an increase in fruit and vegetable intake. Studies show garden-based nutrition education programs can increase students' preference for fruit and vegetables. Morris and Zidenberg-Cherr (2002) reported posttest preferences for carrots, broccoli, snow peas and zucchini increased for fourth

graders after a nine lesson garden and nutrition intervention during school hours. Lineberger and Zajicek (2000) found third through fifth graders that participated in ten garden-based nutrition lessons increased their preference for vegetables, however not for fruit. These students also significantly increased their fruit and vegetable snack preference. Other studies found no difference in snack preference after garden-based nutrition interventions (Koch et al., 2006; Morris et al., 2001; Poston et al., 2005).

**Table 3.2.** Paired t-test data analysis of post-test fruit and vegetable questionnaire results of students participating in the “Summer Experience” program for 2007 and 2008.

<b>Group</b>	<b>Participants</b>	<b>Mean Score</b>	<b>Standard Deviation</b>	<b>Pr&gt;t</b>
Nutrition Knowledge				
Post-test	35	0.257	1.686	0.187
Fruit and Vegetable Attitude				
Post-test	33	0.212	2.103	0.283
Snack Preference				
Post-test	31	0.774	2.109	0.025*
* Significant at the 0.05 level.				

Nutrition knowledge, snack preferences and attitudes are factors that impact fruit and vegetable consumption. In general, other research has reported that knowledge increases and not preference, or preference increases but not knowledge (Domel et al., 1993; Lineberger and Zajicek, 2000). Not all factors of knowledge, preferences, and attitudes have been shown to increase simultaneously in previous studies. Several studies using garden-based nutrition education as an intervention reported that students had increased nutrition knowledge (Domel et al., 1993; Koch et al., 2006; Morris et al., 2001; Morris et al., 2002; Nolan, 2005). Some studies, however show no increased knowledge after the intervention (O’Brien and Shoemaker, 2006; Poston et al., 2005). O’Brien and Shoemaker (2006) found no statistical significance in knowledge or preference after an after-school garden club for fourth graders. Factors such as neophobia, pickiness, food aversions and allergies must be taken into account on an individual level (Dubois et al., 2007; Glanz et al., 1998; Rozin, 1976; Zuidmeer et al., 2008). Because

snack preference was the only factor that increased in the current study, a longer intervention may be required to positively impact students' nutrition knowledge and fruit and vegetable attitudes. The program hours could possibly be extended into the school year, which could further influence factors related to fruit and vegetable intake.

Several previous studies also found that various factors related to fruit and vegetable intake, such as preferences, interest and intake of fruits and vegetables can be positively affected by garden-based nutrition education programs for adolescents. In a similar study, a twelve-week YMCA summer program focusing on garden-based nutrition education demonstrated increased fruit and vegetable preferences, and an increase in trying new fruits and vegetables (Heim et al., 2009). While the population (n=93) was fourth through sixth grade youth, and not high school students, the program activities were very similar to the Summer Experience pilot project (Heim et al., 2009). Pothukuchi and colleagues (2001) found that youth involved in a community-based gardening and nutrition program showed increased interest and enthusiasm for fruits and vegetables. Although the sample size was small (n=9), quantitative data indicated the youth garden positively impacted youth's knowledge of fruits and vegetables, indicating a potential likelihood of increased fruit and vegetable intake. Lautenschlager and Smith (2007) revealed that boy's fruit intake rose ( $p \leq 0.029$ ) by one serving, from 2.0 to 3.0 servings, and vegetable intake rose ( $p \leq 0.027$ ) by 1.4 servings, from 2.0 to 3.4 following a ten week, inner-city gardening program on youth (n=96 pre, n=66 follow-up), 8-15 years of age.

A variable that possibly influenced the test results for the current study was having a small sample size and also the unavailability of a control group to compare and determine more distinct trends resulting from the 'Summer Experience' program. A larger sample size and control groups would be needed to determine which factors are most easily impacted by a garden-based nutrition program.

Another variable that could have impacted the final results was the informal nature of the horticulture and cooking lessons. The use of a formal curriculum would have added more structure to the program. Students were out of school and in a summer program, and concepts may not have been as concretely absorbed as in a formal school setting. Nolan (2005) used the Health and Nutrition From the Garden curriculum (Genzer et al., 2001) and found that after a 7 month intervention of garden-based nutrition education, all three variables, knowledge, attitudes and preferences had significant differences from pre-tests and post-tests. The “Summer Experience” program operated in a summer camp fashion as opposed to a formal job setting. Students knew they were getting paid at the end of their eight week service, however, much of the work was educational, fun, and group oriented. Student participation in and attitude towards activities was occasionally in need of discipline. Uncooperative students at times created a challenging group learning environment.

### **3.9. Qualitative Surveys and Journal Entries**

The results of the quantitative surveys were compared to the qualitative data (Appendix C, D) to further examine the impact of the garden-based nutrition education intervention had on several students. In this section, three students were chosen as representatives of a student that showed the least positive responses to the intervention (student A), a somewhat successful participant (student B), and a successful participant (student C). The end of the program survey (Appendix C) and journal entries (Appendix D) of these three students were examined to see if the qualitative data revealed further insight to their experience in the program.

The scores of the least successful student in the program, student A, indicate that this student scored lowest on the nutrition knowledge test, increasing by two points on the post-test. On the fruit and vegetable preference section, student A had the least preference of any student for fruit or vegetables and increased preference by only one point at the end of the program.

When examining the scores closer, student A increased his/her preference for tomatoes and lettuce from “ I do not like this” to “ I like this a little”, and decreased in score of green beans from, “ I like this a lot” to “ I like this a little”. Student A preferred only bananas on the pre-test, which increased on the post-test to include apples. Student A had the least change and the lowest preference for fruits and vegetables. In the post program survey, student A described the most important thing he/she learned and responded, “I’ve learned how to cook a few different things. And how to pick, make and bottle hot sauce. And sell it too.” Although not increasing fruit or vegetable attitudes, or snack preferences, student A values the newly learned skill of cooking particular dishes, which according to research, adds to one’s self-efficacy (Vereecken et al., 2005).

Student A least enjoyed the “going in the heat outside” and “picking peppers.” This student reported liking all of the Summer Experience activities listed on survey 1, however, they were neutral towards harvesting in farmers fields and growing plants at LSU. Student A described the summer program in three words as, “hot, fun, money.” Three journal entries written by this student reported the activities of the day, with no positive or negative feelings that might give insight to his/her experience. This student’s minimal positive responses to the Summer Experience reveal the obstacle nutrition educators face when trying to impact the dietary patterns of an individual. The biological, environmental, and psychosocial factors that surround Student A’s relationship and inclination to try new fruits and vegetables are unknown (Reinaerts et al., 2007; Vereecken et al., 2005).

Student B had a high score on the nutrition knowledge pre-test, however incorrectly answered six questions on the post-test, giving him/her the lowest post-test score. Student B, however, had the second highest increase on both the snack preference and fruit and vegetable preference sections, increasing by four points on each. Based upon journal entries and the post

program survey, student B had a great time in the program working in a group, trying new foods, and enjoyed the horticulture and hot sauce production activities. Student B described the program as, “great, wonderful, exciting.” The most important thing student B learned from the Summer Experience, “...was getting along with everyone and getting to learn new things.” In referring to the activities in the cooking lab, student B wrote, “I never cooked blackeye [sic] peas before. When I tried it for the first time it was pretty good. The beans and the fruit salad looked pretty good but I didn’t try any.” “Yesterday we went to cook with Ms. Judy and we made all types of new things like fruit salad and other things it was real fun for me and I really enjoyed it.” Based on student B’s enjoyment of harvesting vegetables and tasting fruits in the field, the horticulture activities could have also impacted his/her attitudes and experiences with fruits and vegetables. Student B wrote, “Today was pretty fun we did a lot of things like pick for cabbage and lots of vegetables. We also picked for green peppers and egg plants.” In referring to a blueberry planting activity at the LSU Hill Farm, student B wrote, “It was my first time I didn’t know that blueberries we’re from a tree and they were so sweet.” Student B did not mind getting dirty which was common in the horticulture activities and commented, “Today we went to Hill Farm and we planted seeds and it was real fun to do even though you had to get dirty. We did three trades [sic] of dirt and we put seeds in it like 3 to 4 seeds in each hole, but inside the dirt it was fun.” After participating in a two hour landscape architecture class at LSU, student B wrote, “My vision for the committee garden is that it would grow real good next year because I want to see more fruits and vegetables. We looked at pictures and we looked at a landscape that was done in 6 months and it looked real great.” Student B was very excited about growing fruits and vegetables and wanted to see more fruits and vegetables growing in the neighborhood. Student B’s experience could have not only led to a personal shift in food choices, but also altering his/her vision of her environment and how create a more healthy neighborhood. The combination

of cooking and horticulture activities could have had a positive impact on student B and his/her attitudes towards fruits and vegetables and increased healthy snack preference.

Student C had the highest increase on the snack preference section with a pre-test score of zero and a post-test score of five. Therefore, at the beginning of the program, student C reported to not like any fruit or vegetable snacks at all, and at the post-test increased to liking five fruit or vegetable snacks. Student C's fruit and vegetable attitude score increased the most out of the entire group, as well. On the fruit and vegetable attitude pre-test, student C increased positive attitudes towards fruits and vegetables by five points, for instance, from not liking orange juice, tomatoes and carrots "at all" on the pre-test to liking "a little" on the post-test. On the post-test program survey, student C described the program as, "fun, interesting, and hot" and, "I learned teamwork, curiosity, and learning something new everyday." Student C, "really enjoyed selling and producing the "Hot Stuff" hot sauces," however commented, "I really disliked the times of picking vegetables and fruits sometimes." Comments after a cooking lesson include, "Today I have learned a lot about keeping yourself healthy. Contamination cross is something you should be aware of. Always keep your hands clean. Make sure that you keep your face from a hot pot," and "Yesterday was an exciting day to cook, learn about healthy foods, and food safety. Well, I learned an amazing recipe yesterday but I didn't get to eat it." When asked to describe what their grandparents ate, student C wrote, "My grandparents ate cush, cush [sic] which is cornbread and milk mixed together. And most of the time my siblings and I eat cush cush [sic] every once in a while. It's very good, it's a very healthy food mixture to eat." Although the student's experience with the horticulture activities were not always described positively, student C commented, "Today I learned a lot about harvesting. I really got to experience what farmers go through with all the hotness, bugs and things. I learned about the right vegetables and fruits to pick.", and "What really surprised me about the herbs was having to

pinch out the plants and place them into containers. Labeling them also by their Latin names.”

“Today I learned a lot about planting. My group went to the Hill Farm of LSU. We started of talking about how vegetables and fruits are harvested and planted in the seasons of Spring and Fall. We started going outside to pull up thie [sic] weeds around the vegetables we planted which is the peppers, to support our hot sauce that we specially bottled. And I really learned a lot about planting the blueberries. Today was a very difficult day but then again it was a wonderful day.”

Student C’s positive increases on the snack preference and fruit and vegetable attitudes survey reveal that the “Summer Experience” program was a successful intervention in regard to altering factors surrounding fruit and vegetable intake. Student A seems to have positively responded to the group, social and informal nature of the program, and also enjoyed the gardening component, which other students were not favorable to. Studies show that positive peer support and peer-modeling are successful when combined with a nutrition intervention (Lowe et al., 2004; Lowe et al., 2006).

### **3.10. Conclusions**

This study examined the impact of a garden-based nutrition program on predominantly African-American students living in a low-income area and attending an inner-city school in East Baton Rouge Parish, Louisiana. Because the neighborhood does not have convenient access to a full-service grocery store, the limited availability to fruits and vegetables could be an impediment to healthy eating. This population was chosen in part for the need for employment and educational summer enrichment programs in the OSBR neighborhood. As food security, food access, and public health become greater issues for concern, urban agriculture programs for youth are increasing. The Summer Experience pilot project is a model of a summer, garden-



based nutrition education program that can be replicated in other communities and molded to suit the community partners and student population involved.

Garden-based nutrition education programs like the ‘Summer Experience’ provide hands-on cooking, gardening, and life skills for high school students, while providing fresh produce in a ‘food desert.’ Positive results have been seen in the factors of nutrition knowledge, snack preference and fruit and vegetable attitudes in studies measuring the impacts of garden-based nutrition education programs conducted during school hours, after-school and in community-based programs. Future research is needed to determine the effects of garden-based nutrition education programs on the short-term and long-term factors that influence fruit and vegetable consumption.

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## CHAPTER 4

### CONCLUSIONS AND RECOMMENDATIONS

The Summer Experience, a pilot garden-based nutrition education program for high school youth revealed statistical increase in student's preference for fruit and vegetable snacks over less healthy snack items, such as cookies, ice cream, candy bars, chips, soft drinks, or nachos. Following the programs, student's preferred oranges, grapefruits, carrots, celery, grapes, bananas, fruit salad, apples, or raw vegetable and dip. No increase was found in nutrition knowledge or attitudes towards fruits and vegetables on the post-test.

Based upon observations made during the Summer Experience program, the following recommendations for future research include: More observations are needed in order to reveal strong evidence of a real effect on the healthy snack choices of participants. Further research could include a larger sample size to determine if the statistical trend stays consistent, however a larger sample size may decrease the effectiveness of the program. Due to staff, funding, facilities and transportation, an increase in participants would likely create logistical challenges for the Summer Experience program. However, the use of a control group in future research could reveal a relationship or differences between Summer Experience participants and non-participants of the same age and same location.

Future research could utilize a food diary survey instrument as a more accurate measure of food intake. The food diary could be used as a pre-test and post-test measure of actual and self-reported fruit and vegetable intake. In the 2008 program, an attempt was made to have students record a food diary the first three days of the program, however, few students actually returned the completed three day diary, which made the sample size small. A six-month follow-up study could reveal if the increased preference for fruit and vegetable snacks of participants is maintained or if it changes.

The use of a curriculum in future studies, such as the Junior Master Gardener Health and Nutrition in the Garden, could provide consistency and an enhanced curriculum connection for participants between the horticulture lessons and the nutrition lessons. Further research might investigate the impact of the ‘Summer Experience’ program on fruit and vegetable intake and nutrition behavior of participant’s family and the impact of the youth-led farm stand on the fruit and vegetable intake of the OSBR community.

The current study results indicate that an eight-week, forty-hour garden-based nutrition education summer program for inner-city high school students helped improve preference for fruit and vegetable snacks versus high-sugar or high-salt snacks. Knowledge, attitudes, and preferences are only a few of the factors that might lead a person to increase their fruit and vegetable intake. High school students in inner-city or ‘food desert’ environments, have an additional environmental barrier. Investigating the barriers to healthy eating, good nutrition and food access for youth is imperative to the future health of our nation as a whole.

The 2008 program coordinator began discussions and efforts to develop a full Agriculture Education component into the McKinley High School curriculum. An official state supported Agriculture Education program cannot be integrated into the school unless the staff and community fully support the program. A year-round, school based Agriculture Education curriculum at McKinley High School could be a way to develop sustainability, stability, and consistency for the “Summer Experience” program.



**APPENDIX A**  
**PERMISSION FORMS**

## **Parental Permission Form**

- Project Title:** The Effects of a Summer Horticulture Program on High School Students
- Performance Site:** McKinley High School
- Investigators:** The following investigators are available for questions, M-F, 8:00a.m. – 4:00p.m.  
Louisiana State University Ag Center – Horticulture Department:  
Carl Motsenbocker ( 225) 578-1036 or  
Emily Neustrom ( 225) 578-1037  
Carol O’Neil LSU AgCenter – School of Human Ecology (225) 578-1631
- Purpose of the Study:** To gather statistical and qualitative data on the effects of a summer program on high school students
- Inclusion Criteria:** Youth in McKinley High School
- Description of the Study:** At the beginning of the program, participating students will be given surveys to determine their attitude toward the environment, leadership skills, science achievement, and nutrition knowledge. Throughout the summer students will participate in weekly gardening, cooking, and leadership skills. At the end of the study, students will be given the same surveys that were given at the beginning and scores will be compared to evaluate any changes. These types of surveys help us determine the effectiveness of the program and whether any changes should be made in future programs.
- Benefits:** Participants will develop leadership skills, learn to write a business plan, and learn about food and nutrition. Participants will also receive a stipend for participating in this program.
- Risks:** Risks are minimal and do not exceed those encountered in everyday life. Students will be working outside in the early morning, since dehydration is a risk - water will be available to them and they will be encouraged to drink frequently.
- Right to Refuse:** Participation in this part of the program is voluntary, and a youth will become part of this study only if both youth and parent agree to the youth’s participation. At any time either

the youth may withdraw from the study or the youth's parent may withdraw the youth from the study without penalty or loss of any benefit to which they might otherwise be entitled.

**Privacy:** Results of the study may be published, but no names or identifying information will be included for publication. Subject identity will remain confidential unless disclosure is required by law. Photographs may be taken of student's participation in activities for presentations, but no names or identifying information will accompany the photographs.

**Financial Information:** There is no cost for participation in the study.

**Signatures:**

I have read the above information pertaining to the study and all my questions have been answered. I may direct additional questions regarding study specifics to the investigator. If I have questions about subjects' rights or other concerns, I can contact David Morrison, LSU AgCenter, (225) 578-1708. I will allow my child to participate in the study described above and acknowledge the investigator's obligation to provide me with a signed copy of this consent form.

Parent Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent Name (Print) \_\_\_\_\_ Date: \_\_\_\_\_

Witness Signature \_\_\_\_\_ Date: \_\_\_\_\_

The parent/guardian has indicated to me that he/she is unable to read. I certify that I have read this consent form to the parent/guardian and explained that by completing the signature line above he/she has given permission for the child to participate in the study.

Signature of Reader \_\_\_\_\_ Date: \_\_\_\_\_

**Student Assent Form**

I, \_\_\_\_\_, agree to let my answers on a science test, an environmental attitude test, and a gardening survey be used in a study conducted by Carl Motsenbocker and Carol O’Neil from Louisiana State University AgCenter. I understand that my answers will not be shared with others. I can decide to stop being in the study at any time without getting in trouble.

Signature \_\_\_\_\_ Age \_\_\_\_\_ Date \_\_\_\_\_

Witness \_\_\_\_\_ Date \_\_\_\_\_

( Witness must be present for the assent process, not just the signature by the minor.)

## Indemnification Agreement

I, \_\_\_\_\_, agree to protect,

**Name of Parent/Guardian of Participant**

defend, indemnify, save and hold harmless the State of Louisiana, all State Departments, agencies, boards and Commissions, its officers, agents, servants and employees, including volunteers, from and against any and all claims, demands, expense and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur or in any way grow out of any act or omission of Louisiana State University, its agents, servants, and employees, or any and all costs, expense and/or attorney fees incurred by \_\_\_\_\_ as a result of any claim, demands and/or

**Name of Participant**

causes of action except those claims, demands and/or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, boards and Commissions, its agents, representatives and/or employees. The parent and/or guardian and the participant agree to investigate, handle, respond to, provide defense for and defend any such claims, demands or suits at their sole expense and agree to bear all other costs and expenses related thereto.

Signed by \_\_\_\_\_ Accepted by \_\_\_\_\_  
**Parent or Guardian** **Name of person**

Signed by \_\_\_\_\_  
**Participant** **Title**

Date Accepted \_\_\_\_\_

The purpose of the Indemnity Agreement is to indemnify LSU in the event of an accident resulting in injury or death of a participant in the Food Preparation and Nutrition education part of the Summer Experience Project, which takes place on the LSU Campus in the School of Human Ecology.

## Summer Experience Student Job Application

Please Print Clearly  
 Please turn in to Mrs. Campo  
 Application Deadline: Friday, March 20

**Full Name:** \_\_\_\_\_  
First Middle initial Last

**Home Address:** \_\_\_\_\_

**City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **ZIP:** \_\_\_\_\_

**Home Telephone:** (\_\_\_\_) \_\_\_\_\_ **Cell phone:** (\_\_\_\_) \_\_\_\_\_

**Email:** \_\_\_\_\_ **Circle:** Fr So Jr Sr

**Sex:**  Female  Male **Date of Birth:** \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

**Current Age:** \_\_\_\_\_

**Parent Guardian Name:** \_\_\_\_\_ **Work Telephone:** \_\_\_\_\_

**Place of Employment and Title:** \_\_\_\_\_

**This person is my:**  Legal Guardian  Mother  Father  Relative \_\_\_\_\_

**Other Parent / Guardian Name:** \_\_\_\_\_ **Work Telephone:** \_\_\_\_\_

**Place of Employment and Title:** \_\_\_\_\_

**This person is my:**  Legal Guardian  Mother  Father  Relative \_\_\_\_\_

**Name of teacher who knows you well:** \_\_\_\_\_

### Work Experience - not required

Name of Company	Duration of Work	Position Held

## APPLICATION QUESTIONS

*We want to know who you are! Think carefully about your personal answers to these questions. Write as completely as you can, and try to use all of the space provided. You may attach a separate sheet if you need more room.*

1. Why do you want to participate in the **SUMMER EXPERIENCE** Program?
2. Tell about a time when you helped a friend, family member, or someone in your community. What was the situation and what did you do? How did you feel about it?
3. The **SUMMER EXPERIENCE** program requires working outdoors in the summer and being a team player. How do you handle challenging situations in your work, school, or home?
4. What would you like to achieve this summer? How can the **SUMMER EXPERIENCE** help you do that? What do you want to get out of this job?
5. If you have other commitments such as a child, or another job, how do you plan to manage your time and make the **SUMMER EXPERIENCE** your top priority?

Please indicate the time slot you would like to be interviewed: March 30, 31  
2:30 – 4:30. What time is best for you?

Mandatory parental meeting is April 21, 2009, 6:00 pm, McKinley High Library

Student Signature: \_\_\_\_\_

Parental Signature: \_\_\_\_\_

## Summer Experience Program 2008 Standards Sheet and Violations Chart

**Our Community** The Summer Experience Summer Program is based on core values of community, responsibility, service, initiative, commitment, hope and courage. All participants and staff work together to promote these values. We recognize that this work is a struggle and that it requires us to hold ourselves and each other accountable. Each of use signs a Standards Sheet, which commits us to upholding the core values.

**Standards** In order to reach our potential as a community, we expect the following from each other:

- to be a role model
- to work hard and to be motivated
- to have a positive attitude
- to be honest
- to arrive on time for work
- to handle all food, tools and equipment properly
- to respect the land and not litter on it
- to act responsibly and appropriately on all public transportation
- to wear your McKinley Farmers of Tomorrow T-shirts to work and bring notebooks
- to not use headphones, pagers, or cell phones
- to not leave work without notice
- to not steal, vandalize, fight, or commit verbal abuse
- to not have, deal, or be under the influence of drugs
- to not have a knife or gun

**Scope of Standards** The standards are in effect for all staff and workers from the time they leave their home and arrive at the Islamic Complex, to the time they arrive at home and remove their work uniform.

**Earning Pay** Youth program participants earn money for their work and full participation in our program.

**Losing Pay** Youth Program participants will receive warnings for violating the expectations of the Standards Sheet. Continued Violations will result in lost pay. The number of warnings before pay is lost depends on the Standard that is violated. There are a few violations that result in immediate loss of pay or immediate firing.

**Absence** If you know ahead of time you will be absent, you must personally hand **Ms. Emily Neustrom** an **Absence Form** filled out a week prior to the absence. Absences are excused only if they are for medical reasons or family emergencies, or have been cleared through the program coordinator. A doctor's excuse will be accepted or a note from the parent/guardian a within a week of the emergency. If no record or excuse for the absence is received, the absence is considered an **Absence without Permission which results in a violation of \$10 pay.**

**Notifying the Summer Experience Staff about Absence or Lateness** As soon as you know that you will be late or absent for any Summer Experience Activity, please call Emily's office, at 225-578-1037 OR 337-296-2646 and leave a message. Be sure to leave your complete name and phone number.

I agree to uphold this contract between myself and the Summer Experience Staff.

---

Youth Signature

Date

---

Summer Experience Staff Signature

Date



**Summer Experience 2008  
Violations Chart**

<b>Violations</b>	<b>Pre-Warning</b>	<b>Step 0</b>	<b>Step 1</b>	<b>Step 2</b>	<b>Step 3</b>	<b>Step 4</b>	<b>Step 5</b>
<b>Absent with permission</b>	Excused	Excused	Lose \$10	Lose \$20	Lose \$20	Lose \$20	Fired
<b>Arriving Late with a call before 7:00a.m.</b>	( PW)	( W )	Lose \$10	Lose \$15	Lose \$ 20	Lose \$25	Fired
<b>Arriving Late and calling after 7:00 a.m.</b>		( W )	Lose \$10	Lose \$15	Lose \$ 20	Lose \$25	Fired
<b>Poor attitude</b>		( W )	Lose \$10	Lose \$15	Lose \$ 20	Lose \$25	Fired
<b>Being Unmotivated</b>		( W )	Lose \$10	Lose \$15	Lose \$ 20	Lose \$25	Fired
<b>Not wearing T-shirt</b>		( W )	Lose \$10	Lose \$15	Lose \$ 20	Lose \$25	Fired
<b>Missing notebook or materials</b>		( W )	Lose \$10	Lose \$15	Lose \$ 20	Lose \$25	Fired
<b>Misuse of food, tools, equipment</b>		( W )	Lose \$10	Lose \$15	Lose \$ 20	Lose \$25	Fired
<b>Using a walkman, pager, cell-phone</b>		( W )	Lose \$10	Lose \$15	Lose \$ 20	Lose \$25	Fired
<b>Smoking</b>		( W )	Lose \$10	Lose \$15	Lose \$ 20	Lose \$25	Fired
<b>Littering</b>		( W )	Lose \$10	Lose \$15	Lose \$ 20	Lose \$25	Fired

**No Warnings Possible for these violations**

<b>Absent without permission</b>			Lose \$10	Lose \$20	Fired		
<b>Inappropriate behavior</b>			Lose \$10	Lose \$20	Fired		
<b>Lying</b>			Lose \$10	Lose \$20	Fired		
<b>Vandalism</b>			Lose \$10	Lose \$20	Fired		
<b>Verbal or physical abuse</b>			Lose \$10	Lose \$20	Fired		
<b>Being high or intoxicated</b>					Fired		
<b>Stealing</b>					Fired		
<b>Fighting</b>					Fired		
<b>Having or dealing drugs or alcohol</b>					Fired		
<b>Having a knife or gun</b>					Fired		

**APPENDIX B**  
**FRUIT AND VEGETABLE QUESTIONNAIRE**

### **Fruit and Vegetable Attitude Questionnaire**

Please indicate which best describes your feelings to each item below by checking the box.

	<b>I like this a lot<sup>1</sup></b>	<b>I like this a little<sup>2</sup></b>	<b>I do not like this<sup>3</sup></b>
1. Orange Juice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Apples	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Tomatoes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Tangerines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Grapefruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Lettuce (Green Salads)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Green Beans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Squash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Broccoli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Carrots	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<sup>1</sup> This choice received two points.

<sup>2</sup> This choice received one point.

<sup>3</sup> This choice received zero points.

Scores range from 0 to 20 points.

### **Snack Preference Questionnaire**

Choose between the two snacks you prefer more by circling your answer below.

1. An orange or grapefruit	Or	My favorite cookie
2. Peanut butter on bread	Or	Carrots
3. An orange or grapefruit	Or	My favorite ice cream
4. My favorite candy bar	Or	Celery
5. An orange or grapefruit	Or	My favorite soft drink
6. My favorite cookie	Or	My favorite raw vegetable and dip
7. My favorite chips	Or	Grapes
8. Bananas	Or	A fried apple pie
9. Fruit salad	Or	A candy bar
10. An apple	Or	Nachos

A fruit or vegetable snack choice was given one point, a non-fruit or vegetable snack choice was given zero points. Score range from 0 to 10.

## Nutrition Knowledge Questionnaire

Please circle the answer you believe is correct.

1. What is an example of food from the Bread, Pasta, and Cereal Group?  
a. **Spaghetti**    b. Apple    c. Cucumber    d. Cheese
2. What is an example of food from the Fruit and Vegetable Group?  
a. **Grapes**    b. Rice    c. Chicken    d. Milk
3. Which fruit or vegetable is a good source of vitamin C?  
a. Lettuce    b. Garbanzo Beans    c. Carrots    d. **Orange**
4. Which fruit, juice or vegetable is the best source of fiber?  
a. **Dry Beans**    b. Lettuce    c. Bananas    d. Apple Juice
5. Which fruit or vegetable is an example of a root crop?  
a. Oranges    b. **Potatoes**    c. Apples    d. Pears
6. Who should follow the MyPyramid?  
a. Children    b. Adults    c. Teens    d. **All of the above**
7. How much fruit should you eat a day?  
a.  $\frac{1}{2}$  cup    b. 1 cup    c.  $1 \frac{1}{2}$  cups    d. **2 cups**
8. How much vegetables should you eat a day?  
a.  $\frac{1}{2}$  cup    b. 1 cup    c. 2 cups    d. **3 cups**
9. On a nutrition label, what is the most important thing?  
a. **Serving size**    b. Amount of fiber    c. Amount of Sugar    d. Amount of calcium
10. **True** or false: No single food contains all necessary nutrients a body needs.
11. **True** or false: Fruits and vegetables may prevent some diseases, including cancer and heart disease
12. **True** or false: The human body is composed of more than 70 percent water.
13. **True** or false: Plant foods such as fruit, vegetables, and grains do not contain cholesterol and most are low in fat.

---

Correct answers received one point.

Correct answers are shown in bold.

Domel, S., T. Baranowski, H. Davis, S. Leonard, P. Riley, and J. Baranowski. 1993. Measuring fruit and vegetable preferences among 4th and 5th grade students. Preventive Medicine 22(6): 866-679.

**APPENDIX C**

**POST PROJECT QUALITATIVE QUESTIONNAIRE and RESPONSES**

## Qualitative Survey

### Summer Experience Questionnaire

Name: \_\_\_\_\_

Please answer the following questions. All of your answers are confidential and your responses will be used to make the Summer Experience program even better next year.

Reflecting on your summer experience:

1. If someone asked you to share **one to three words** to describe your summer experience or how you feel about your activities this past summer what would they be?

\_\_\_\_\_

2. What did you like about the summer experience?
3. What did you dislike about the summer experience?
4. If you could change anything in the program, what would that be?
5. Did anything happen during your experience that surprised you?
6. Is your experience different than you expected? How so?
7. Summarize the most important things that you will take away from this experience.
8. Would you like to work with the Summer Experience program staff during the school year on projects such as the community garden, the OSBR farmers market, or the hot sauce project?
9. Would you recommend the Summer Experience program to a friend?

Please rate the following by circling one response to each:

Guest speakers	LIKE	DISLIKE	NEUTRAL
Harvest at farmer fields	LIKE	DISLIKE	NEUTRAL
Harvest at LSU (Burden, campus)	LIKE	DISLIKE	NEUTRAL
Work at farmers market	LIKE	DISLIKE	NEUTRAL
Cooking, nutrition classes at LSU	LIKE	DISLIKE	NEUTRAL
Starting, growing plants at LSU	LIKE	DISLIKE	NEUTRAL
Field trip to Avery Island	LIKE	DISLIKE	NEUTRAL
Grocery Store Visit	LIKE	DISLIKE	NEUTRAL
Students Making Lunches	LIKE	DISLIKE	NEUTRAL
Preparing for final lunch celebration	LIKE	DISLIKE	NEUTRAL
Designing the community garden	LIKE	DISLIKE	NEUTRAL
Farm visits in general	LIKE	DISLIKE	NEUTRAL
Keeping a journal	LIKE	DISLIKE	NEUTRAL
Leadership lectures	LIKE	DISLIKE	NEUTRAL
Meal for under \$5	LIKE	DISLIKE	NEUTRAL
Bottling and labeling hot sauce	LIKE	DISLIKE	NEUTRAL
Selling hot sauce	LIKE	DISLIKE	NEUTRAL

## 2007 Post Assessment Survey

**1. If someone asked you to share one to three words to describe your summer experience or how you feel about your activities this past summer what would they be?**

1	Fun	Bad	Boring
2	Fun	Interesting	Hot
3	Fun	Educational	Experimental
4	Fun	Different	Positive
5	Fun		
6	Planting	Cooking	Hot
7	Fun	Interesting	Educational
8	Hard work	Interesting	Educational
9	Fun	Money	Hot
10	Fun	Learning	Healthy
11	Fun	Adventuresome	Hot
12	Fun	Exciting	Difficult
13	Fun	Learning Experience	Challenging
14	Fun	Learning experience	
15	Fun	Experience	Hard work
16	Fun	Learning	Healthy
17	Fun	Learn new things	Learn how to be a good salesperson
18	Fun	Exciting	Hot
19	Fun	Exciting	Educational
20	Great	Wonderful	Exciting
21	Fun	Wonderful	Hot
22	Fun	Educational	Made me tired

**2. What did you dislike about the summer experience?**

1. That some people are too picky and worry about other people too much
2. I really disliked the times of picking vegetables and fruits sometimes.
3. Being in the sun
4. I hated bottling hot sauces
5. What I dislike about the summer experience was they have 24 people in the group but only 3 people be working but everybody want to get paid.
6. When people always think they're right
7. All the bugs I came across
8. I disliked working in the fields sometimes
9. Going in the heat outside
10. The argument
11. Working in the hot sun
12. The attitudes
13. I was disappointed about some of the group members behaviors
14. That some people were not cooperative



- 15 I didn't really dislike anything except getting up at 6:00 am
- 16 I dislike the attitude that they had
- 17 I didn't like picking peppers in the hot sun
- 18 That it was hot. I do not like being in the heat.
- 19 The hot sun picking stuff
- 20 Nothing. Everything was wonderful.
- 21 What I disliked about the summer experience was harvesting okra.
- 22 The heat we worked in and the complaining by fellow workers.

**3. What did you like about the summer experience?**

1. That I got to meet people I'm going to school with
- 2 I really enjoyed selling and producing the "Hot Stuff" – hot sauces
- 3 Cooking with Ms. Judy
- 4 Everything and really meeting new people.
- 5 We experienced new things and we had the chance to meet new people.
- 6 Got to know classmates I never talk to.
- 7 Everything
- 8 I liked Cooking
- 9 Going to LSU, to meet different people
- 10 The farming and cooking
- 11 The thing I liked was learning how to cook.
- 12 Going to meet new people and seeing how I worked with them. I also enjoyed the money I got for coming.
- 13 I liked going to the different farms and farmers markets.
- 14 I liked a lot about harvesting.
- 15 I liked learning what my dad does and gardening, making our own food this is a great program.
- 16 I like farming and learning to eat healthy.
- 17 I like bottling & labeling hot sauce because it was our product. We were doing something good that the community liked and they were proud of us.
- 18 The cooking, harvesting, and trips.
- 19 Everything, especially the farmers market.
- 20 I liked the part when everyone worked together as a group.
- 21 What I did like about the summer experience is learning how to advertise, farm, and trying new foods.
- 22 I got to learn new things. Got to meet new people who I saw at school who turned out to be very nice people, and I got to see that everyone makes a difference you just have to start it.

**4. If you could change anything in the program, what would that be?**

1. People's attitude
- 2 I would like to change the times when its time to prepare for lunch, because we get almost the same things everyday.
- 3 More cooking time

- 4 To be more put together
- 5 Some people's actions
- 6 The things we eat (sandwiches)
- 7 Being in the field so much
- 8 Maybe the leaders should hear the kids out more
- 9 Peers. To mind their own business and not others, let the teacher handle business.
- 10 The days and time. ( I think)
- 11 It would be not going to the farm so much
- 12 The van with no air!
- 13 I would have like to see more variety
- 14 The students attitude.
- 15
- 16 That we shouldn't make hot sauce. Do something else.
- 17 To stop eating sandwiches everyday and also for us youth to respect one another and our staffs.
- 18 Do more indoor stud instead of all them outdoor activities.
- 19 Going to the fields earlier in the morning to beat the sun.
- 20 I would have liked to have more activities.
- 21 If I could change anything, it wouldn't be anything, it would be anyone, and that's myself, for me to know that I could of done better on this program.
- 22 My fellow workers attitude toward the program and also the food in the beginning.

**5. Did anything happen during your experience that surprised you?**

1. No.
- 2 Well, what really surprised me was the attitude of others
- 3 Yeah, I got bit by a pack of ants.
- 4 That we went to meet the governor
- 5 I got to see how black people live back in the days.
- 6 No.
- 7 When we went to Avery Island.
- 8 When we started eating more of what we liked.
- 9 Have to pick peppers. I thought we have to sell, not bottle.
- 10 No, not really.
- 11 Lil' Bootsie bought hot sauce from us.
- 12 I learned what love and persistence meant.
- 13 It surprised me that I don't mind being in the hot sun so much.
- 14 No.
- 15 I thought this would be boring but there's lots to do and our mentors and students (us) made it fun.
- 16 Nothing
- 17 Yes, cooking healthy food.
- 18 Yes, I learned how to cook and harvest fruits and vegetables
- 19 I met a lot of important people. I became more aware of the fruit we need to eat a day and I met a good friend that's another race.
- 20 That everyone got along with each other.

- 21 Even though we did have a lot of fun, nothing surprised me, and I wasn't expecting anything to surprise me, I just came to work.
- 22 That the people who I worked with who also had gone to my school I thought were one way, but was the complete opposite, and that I would actually like farming.

**6. Is your experience different than you expected? If so, how?**

1. Yes, it went by fast and it was kind of fun.
- 2 Well it was different, by the times of going into the fields.
- 3 No
- 4 Yes, we did a lot more things than I thought we were.
- 5 Not really
- 6 Yes, because I thought it would be like last year. The people last year was lazy.
- 7 Yes, because I didn't know that we would be working in the field so much.
- 8 Yes. I thought we were gonna be going on lots of trips.
- 9 Yes, picking peppers.
- 10 No.
- 11 Yes, because I thought we were really going to be working like a real job.
- 12 Yes, I thought that my opinion mattered but every time I wanted to do something I got stopped or someone made a negative comment.
- 13 Yes, learning about the different people and how to deal with that.
- 14 Yes, I was expecting it to be more people to be willing to learn.
- 15 No response.
- 16 Yes, because I thought that it would be easy and it was a lot of hard work.
- 17 No, it was fun.
- 18 Yes, because I thought that I was not going to have fun, but I did.
- 19 Yes, because I thought we were going to different fields everyday.
- 20 No, everything turned out great.
- 21 Of course it was different that I expected, because I wouldn't of had any idea about all the brilliant people we met.
- 22 Yes, very much so. I really thought it was going to be boring and I was also scared that the people (not all) that I worked with wouldn't like me.

**7. Summarize the most important things or experiences that you will have learned from this experience.**

1. I learned how to work better with others
- 2 I learned teamwork, curiosity, and learning something new everyday.
- 3 I reached my goal of learning how to run a business by myself and how to plant and harvest food.
- 4 How to work in a group and listen to others opinon.
- 5 No response.
- 6 Cooking with Ms. Judy
- 7 I learned how to plant things, and pick them, cook, etc.
- 8 I've learned how to really communicate with people. I also learned how to sell things.

- 9 I've learned how to cook a few different things. And how to pick, make and bottle hot sauce. And sell it too.
- 10 Leadership. Teamwork.
- 11 I learned how to harvest, cook, and interact with people.
- 12 Nothing.
- 13 The most important thing I have learned is to be more patient with people around. Not to also think they know what to do, and to expect that people learn at different rates.
- 14 Through the experience I learned how to harvest and how to cook more nutritious food. I learned it takes a group effort for certain things to be accomplished.
- 15 Well, I learned how to garden and make "Hot Stuff." It was really fun and I'm glad I did it.
- 16 I learned how to make my own hot sauce. It was a little hard to bottle the hot sauce because the hot sauce burned my eyes.
- 17 I learned how to get along with others, to watch what comes out of my mouth. I learned not to complain about every little thing but to think of others first instead of myself. I learned how to harvest peas, peppers, and okra, even though it was very hot. I like selling the hot sauce and to hear people say how proud they are of us.
- 18 The most important things or experience that I have learned was to harvest, cook, and learn different character building skills.
- 19 Health issues
- 20 The most important thing I learned from this experience was getting along with everyone and getting to learn new things.
- 21 Well learning how to harvest, advertise, learning how to open up your own business when you get older, work with people, and leadership.
- 22 The summer experience was great. I've learned how to do so much. I've learned how to farm plants and vegetables and chickens, and I've learned how to be patient and I've also learned that people are not always as bad as you think and it's not you against the world. It's teamwork and things such as that that makes America great and if we unite together we'll be stronger.

**8. Would you like to work with the Summer Experience program staff during the school year on projects such as the community garden, the OSBR farmers market, or the hot sauce project?**

1. YES
- 2 YES
- 3 YES
- 4 NO RESPONSE
- 5 YES
- 6 YES
- 7 NO RESPONSE
- 8 YES
- 9 YES
- 10 YES
- 11 NO

- 12 NO
- 13 NO
- 14 YES
- 15 YES
- 16 YES
- 17 YES
- 18 YES
- 19 NO RESPONSE
- 20 NO
- 21 YES
- 22 YES

**9. Would you recommend the Summer Experience program to a friend?**

- 1. NO RESPONSE
- 2 YES
- 3 YES
- 4 NO RESPONSE
- 5 YES
- 6 YES
- 7 YES
- 8 YES
- 9 YES
- 10 YES
- 11 YES
- 12 YES
- 13 YES
- 14 YES
- 15 YES
- 16 YES
- 17 YES
- 18 YES
- 19 NO RESPONSE
- 20 YES
- 21 YES
- 22 YES

## 2008 Post Assessment Survey

### 1. If someone asked you to share one to three words to describe your summer experience or how you feel about your activities this past summer what would they be?

1	Nice	Fun	Exciting
2	Good	Fun	Hot
3	Learning Experience	Fun	Exciting
4	Crazy	Fun	Hot
5	Great Experience	Fun	Exciting
6	Encouraging	Fun	Helpful
7	A great learning experience	Fun	Meeting new people
8	Cool	Fun	Learning
9	Meeting people	Fun	Learning

### 2. What did you dislike about the summer experience?

1. Nothing
2. I didn't dislike anything about the summer it just was fun.
3. I like everything.
4. Wheat bread.
5. The heat
6. I didn't dislike anything about the summer experience.
7. Picking in the hot sun.
8. I disliked working in the sun but it was very fun at time.
9. No, I loved it.

### 3. What did you like about the summer experience?

1. Mostly everything
2. When we started cooking with Ms. Judy
3. Everything
4. Water park
5. Learning about plants and people
6. I liked everything. The best part was cooking.
7. I learned new things.
8. I like when we went to the river and the downtown market.
9. The food and the people.

### 4. If you could change anything in the program, what would that be?

1. More field trips
2. The shirts
3. Nothing
4. 459 union lunch
5. Sandwiches
6. I would say we go Monday through Friday instead of Tuesday through Thursday
7. I would have changed nothing.
8. I would change all the picking we had to do in one day.
9. More money

**5. Did anything happen during your experience that surprised you?**

1. How some people acted
2. When we received the checks at the end of the program
3. No
4. Friends/survey
5. No
6. I found out that harvesting food was hard work.
7. No
8. No
9. New friends

**6. Is your experience different than you expected? If so, how?**

1. Yes, I had more fun than I did last year. I knew more people.
2. No
3. No
4. LSU
5. No, everything I wanted.
6. Yes, because I didn't expect to learn anything out of the program but I learned how to get along better with people I don't know.
7. Yes, because I learned how to manage a business
8. Yes, because I thought it was going to be like school, but it was way better than that.
9. Nope

**7. Summarize the most important things or experiences that you will have learned from this experience.**

1. How to garden, how to cook lots of things
2. The most important thing is eating healthy
3. How to sell and harvest things
4. Harvesting
5. How to pick a fig
6. I basically learned that harvesting food is a fun but hard job. Cooking food the right way can stop you from getting sick. That cutting many different food with the same knife can cause you to get sick.
7. How to believe that I can finish and complete things.
8. I learned how to work well with others. I also learned how to make boring things fun.
9. Fun and food

**8. Would you like to work with the Summer Experience program staff during the school year on projects such as the community garden, the OSBR farmers market, or the hot sauce project?**

1. Yes
2. Yes
3. Yes

- 4 Yes
- 5 NO RESPONSE
- 6 Yes
- 7 Yes
- 8 Yes
- 9 No

**9. Would you recommend the Summer Experience program to a friend?**

- 1. Yes
- 2 Yes
- 3 Yes
- 4 Yes
- 5 NO RESPONSE
- 6 Yes
- 7 Yes
- 8 Yes
- 9 No



**APPENDIX D**

**2007 – 2008 PARTICIPANT JOURNAL ENTRIES**

**Participant journal entries for 2007 for each student, including gender and age. Not every student completed the program, therefore they do not have a student number. Each student number correlates with the responses on other surveys given.**

Male, Age 13

Entry #1	Nothing really surprised me about yesterday except for that blueberries needed hormones [sp]. About my cooking expering [sic] I never had black beans of pinto beans, so that was my first time eating those beans.
Entry #2	I didn't learn anything about respect yesterday because I already know about respect. I love working in groups and it was fun I had a really great time.
Entry #3	Today I got put in a field to pick onions and cabbage. It was very fun and I learned a lot today. They taught me a very good lesson.
Entry #4	Today at camp I learned how to bottle hot sauce. I also helped do the farmers market. I helped prepare the food we ate today and that's about all we did today.
Entry #5	Today, at camp I learned how cook different kind of pie, and cinnamon toast. The pie we cook smelled and tasted like pizza. The cinnamon toast tasted very good. Also, I got peppers @ LSU's garden and I'm going to make some chili.
Entry #6	Today when we get to the farm I'm going to ask the farmer some really good questions. I'm going to ask him what do they do with the eggs after they come out? Do they let them hatch or eat them? Also, what do they do for fun on the farm? How do they get the milk out the cow? Do they milk it by hand or with a machine?

Female, Age 15

Entry #1	What/How did your grandparents eat? My grandparents ate cush, cush which is cornbread and milk mixed together. And most of the time my siblings and I eat cush cush every once in a while. It's very good, it's a very healthy food mixture to eat.
Entry #2	“Commitment” To learn how to produce foods. Today I learned a lot about harvesting. I really got to experience what farmers go through with all the hottness [sic], bugs and things. I learned about the right vegetables and fruits to pick.
Entry #3	Today I have learned a lot about keeping yourself healthy. Contamination cross is something you should be aware of. Always keep your hands clean. Make sure that you keep your face from a hot pot. Also, we planted basil. We put soil into containers.
Entry #4	What surprised you about planting herbs or blueberries? What really surprised me about the herbs was having to pinch out the plants and place them into containers. Labeling them also by their Latin names.
Entry #5	I learned to respect yourself and others. No matter of their appearances. And work as a team to get the job done.
Entry #6	Today I believe that it's going to be a boring day. Or maybe not. I may have an excitin' [sic] time today. Well I just hope that there may not be too many bugs and things. Yesterday was an excitin' [sic] day to cook, learn about healthy foods, and food safety. Well, I learned an amazing recipe yesterday but didn't get to eat it. And as for the rest of the groups, I think they did a wonderful job.

	So workin' [sic] as a team could lead to a great successful.
Entry #7	Today I learned a lot about planting. My group went to the Hill Farm of LSU. We started of talkin' [sic] about how vegetables and fruits are harvested and planted in the seasons of Spring and Fall. We started going outside to pull up thie weeds around the vegetables we planted which is the peppers, to support our hot sauce that we specially bottled. And I really learned a lot 'bout [sic] planting the blueberries. Today was a very difficult day but then again it was a wonderful day.
Entry #8	"Reflect on Rural Life Museum" I really enjoyed the experiences at the museum. It really was wonderful to know a lot about my ancestry. It's not hard to believe what went on back then. Of course it was wrong, I really learned a lot about the museum. It was good to yesterday to harvest the peppers.

Male, Age 16 ( did not finish program)

Entry #1	My grandparents ate racoon [sic], opossum [sic], fish, lots of wildlife Purpose: To learn How to farm.
Entry #2	I learn how to harvest cabbage and onions.
Entry #3	I cooked black beans, rice and corn muffins.
Entry #4	What suprised [sic] you about planting herbs and blueberries? What suprised [sic] me the most about planting blueberries is that I didn't now [sic] the process took to long. I learn how to do that for the first time.
Entry #5	What was new about your cooking experience? What was new about my cooking experience is that I never cook "black beans" before. They are the hardest beans to cook, but they came out good. Another thing I never cook was homemade cornbread which came out good too.
Entry #6	What did you learn about respect? What I learn about respect is to work in a group there has to be respect for everything to go right. I learn if you give someone the respect they'll give it back to you.

Female, Age 16

Entry #1	Yesterday we picked purple hull peas and red hot peppers, and we went to the rural life museum. It was pretty boring but I enjoyed my stay and we had a blast anyway.
Entry #2	My name is ... and this is my second year doing the summer experience program. I have really enjoyed my time here. A little about the program, we are students that attend McKinley high school. We learn how to harvest, farm and be respectful individuals. During this experience I learned how to really get out and get involved, and on my own. We also sell hot sauce which we named Old South Baton Rouge Hot Stuff. The money from that is going towards our stipend and our summer fun trip, which will be next week.

Female, Age 17

Entry #1	What did my grand parents eat? That's a good question. My grandmo [sic] die when my mom we 12. My grandfather well my mother don't know him so. I
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	don't know who knows what they eat. I would ask her sisters but they was the cause of her deaf [sic].
Entry #2	First you should know your purpose. Today I picked a lot of things and it was hot. Then I am sick, well, I don't feel good. And now I know what my great great grandmother had to go through. But I had fun working as a team to get the job done.
Entry #3	What surprised you about planting herbs or blueberries? I get to eat what I plant. What was new about your cooking experience? Had you cooked beans, fruit salad, etc.? yes What did you learn about RESPECT yesterday or working in a group? Nothing
Entry #4	On the 26 of June we went to LSU to the cooking class and cook bell pepper + chearrd [sic] fri... [sic] something and a nachos fruit dessert and that food was good I guess.
Entry #5	Today was so much fun. We had draw a layout about how we want our graden [sic] to look like. And we got a great idea about what Ms.X do and going to school for.
	We went 2 the rural life museum + it was so sad to see that they house is the same sides [sic] as my room. They had well I seen only one tube [sic] out the hole [sic] place and it was made out of wood.

Female, Age 15

Entry #1	What did my grandparents eat? I really don't know what my grandparents ate because they passed when I was younger. But I guess it is similar to what we eat today.
Entry #2	Today I learned about the different types of vegetables. I also was out in the fill [sic] pickin [sic] cabbage [sic], peppers, onions, etc... I had fun except it was to [sic] hot.
Entry #3	Today we bottled hot sauce. We also had a discussion about breakfast and where it comes from. One group was outside selling the food we harvest yesterday. While everyone else was working as a team bottling hot sauce.
Entry #4	Today we cooked and learned how to plant blueberries. With this we had to use teamwork. It ws very interesting how we all worked together to get what we need to get done. Well we cook red, white, black beans, corn muffins, friut [sic] salad, green salad, etc... This is what we did yesterday and what was interesting to me.
Entry #5	Well, we went to Ms.X and when we got there we went watched a food safety movie and the other half went upstairs and started cooking. Then everybody was upstaris [sic] and they told us wat [sic] they had did then we finished cooking and then we sat down and ate, clean up and after all this we left.
Entry #6	Today we went to LSU to the Arts and Design section. While we were their [sic] we talked and drew our design for our garden. We had a bunch of different ideas. Then we had to talk about it. I learned things about landscape that I didn't know before.
Entry #7	Yesterday we went to the Rural Life Museum. While we were there we saw slave houses, sick houses, school, church, grave yard, kitchen, etc... It was a

	learning experience for us.
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Female, Age 19

Entry #1	What did your grandparents eat? Deer, rabbit, turtle, cornbeard [sic] and milk, fish, chicken, turkey neck, turkey wing Learn how to produce food
Entry #2	I went to two fram [sic] today, one was name Burden and LSU Hill. I pick cabbage and I had fun. It was very hot out there. The other half of my teammate pick onion.
Entry #3	Today we pick black beans and watch a safety cook movie.
Entry #4	My favoite [sic] part in the summer program was going to Ms. Jullan kitchen on Tuesday. And my favoite[sic] dish was cilliconce [sic].

Female, Age 15

Entry #1	“What did your grandparents eat”? Well, I think my grandparents ate rabbit, coon [sic], and other animals but I don’t eat animals. Something I learned while
Entry #2	Well today I picked cabbage and sorted out snap beans. I got bit by lots of insects and got dirty but other then [sic] that I had a lot of fun. I learn how to harvest cabbage I never knew how but I DID IT!!! Purpose for the next 8 weeks: staying committed to being here.
Entry #3	Today we talked about the breakfast we ate. Then we bottled hot sause [sic] and we made lunch for the whole class and some people were selling fruits and vegetables outside selling
Entry #4	Today we planted basils and then we came to LSU and split up into 2 groups and 1 group watched a movie and the 2 group went upstairs and made beans in our group. I learned how to make beans
Entry #5	What surprised you about planting herbs or blue berries? Well, the things that surprised me about planting herbs were all the different smells that came with it. Also the different types of plants. We got to play with dirt.
Entry #6	My cooking experience was great because I never knew how to cook so I think I did good because they were good.
Entry #7	What did you learn today about respect or working in a group? Well, I learned that you should respect others if you wanted to be treated with respect.
Entry #8	Well today we watched a movie about food and we cooked a good good meal and dessert it was fun oh we went to the hill farm and talked about pepper and then we went outside and looked at all kind of shapes and colors of the peppers.
Entry #9	Well, today we went to look at a lot to use to make us our community garden. Then, we came to LSU Arts and Design school and we talked about the lot. we went over all the things we need for our garden. We had to draw a picture about how we want our garden to look then we talked about how are we going to get the funds to make our garden a sucess [sic].
Entry #10	My favorite thing I did this summer is went to all these different farmes [sic] and cooked all these different foods.

Female, Age 16

Entry #1	<p>What did your grandparents eat? My grandparents ate fish, coon [sic], rats, rice, wheat, green, and fruits. Yesterday we went to LSU to take a test then we went to see Mrs. X [sic] at her cooking lab. We cooked tuna fish sandwiches [sic] and drank some tee [sic] after that we all came back to the complex and got our papers and went home. Today we are going to the farm we can harvest some veges [sic].</p> <p>Purpose: To learn new things about farming.</p>
Entry #2	<p>Today we picked onions and cabbage. We split into groups. My group broke down into smaller groups and we finished quick. When we got bake [sic] from the two farms we fixed sandwiches [sic] and lemonade and we taked and ate intill [sic] it was time to go.</p>
Entry #3	<p>Today when I got here we broke into groups of four and group one went to farms market, group two hade [sic] to fix lunch and boddle [sic] hot sauce, group three cleaned up after lunch and bodle [sic] hot sauce, group four boddle [sic] hot sauce and thats [sic] what we did.</p>
Entry #4	<p>Today when I got to the complex we talked about the market and they made \$106, and we talked about the hot sauce and got our shirts and we left and went to the hill farm at LSU and we planted some mrs. Burn lemon and when my group finish it was time to go to Mrs. X and we cooked red, white, pento [sic] and black beans. To wash that down we drunk minty tea. I had a lot of fun with Mrs. X and I had fun at the Hill Farm.</p>
Entry #5	<p>What suprired[sic] you about planting hurbs [sic] or blueberries? We had to get some sole [sic] to put in a tray and but [sic] holes in the sole [sic] to replant Mrs. Burn lemon it was an exciting experience.</p>
Entry #6	<p>What did you learn about respect yesterday or working in a group? I learnd [sic] if you give respect then you get respect. I loved working in the group. I was in because every body had their part in the work. When it was time to clean up we were already done. We work togeather[sic] and our food came out to be the best red beans. When I went to the pot to get some bean for my grandmother and mother all the beans were gone. My group member and I made a fruit salad and it was perfect. Everybody ate that as well. We worked as a group and respected each other the whole time we were working.</p>
Entry #7	<p>Today after we talked about yesterday, we drew pictures of how we wanted our farmer market boards to be and who we wanted to draw them. After we looked at all of them we bottled hot sauce and the new hot sauce looks good, smells good, and tast [sic] good.</p>
Entry #8	<p>Today is Thursday and my groups turn to do the famers market. I think it would have went smother [sic] if we went out and got to set up right away. When we got out there people were coming up buying things. Our calculator was broke so we had to add up everything off papper [sic]. It was difficult at first because two or three people would come up at the same time and I would have to add there [sic] things up and I was gettin[sic] frustrated. It seemed like they were all throwing their money to me at once. I also had to write down what they were getting</p>
Entry	<p>Today is Tuesday and we had to go to the cooking lab. Before we went to the</p>

#9	cooking lab we went to the hill farm to harvest peppers. When we got to the lab half of the group had to go to egg safety class. When they got back Mrs. X told the rest of the group what they talked about. After that everybody started to cook. My group had to cook everyone's muffins and mushroom and cheese frittata. Our frittata came out really good but our muffins were plain they had no flavor to them. People still ate the muffins they just added some honey. Group 1 made a fruit frittata an [sic] sinomen [sic] bread and it was so good.
Entry #10	Today we are going to see the mayor and a farmer. When we go to his farm he told us about his chicken [sic] and about what he was growing in his garden. He is growing cabbage and tomatos [sic] and qus [sic]. He also let us ride on his four wheeler. We we go to the court house we sold 3 bottles and gave away two boxes of the hot sauce. We had so much fun today.
Entry #11	Today we went to the hill farm and we pulled up weeds that were by the peppers. Then we went into the building and we cuted [sic] blueberries and inbeded [sic] them into sole [sic]. After we did that we went across the hall and we planted pepper seeds.
Entry #12	Today we came to the art and design building and we talked to Mrs. Sussan [sic] about the garden. First we laid out the plan site assessment, vision, and design intent.
Entry #13	Yesterday we went to the Hill Farm to harvest peppers. Then we went to the Burahn [sic] farm and harvest purpul [sic] peas. Then we went to the Rural Life Museam [sic] and looked at the old slave house and I loved every minute of it. We real had a good time and I wish I could go to another museam [sic] like that.

Female, Age 19

Entry #1	How did your grandparents eat? Well, my grandparents are from Nigeria so the food they ate were a little different. My mom told me that my grandparents and my parents ate a lot of starch foods like yam, potatoes, and rice. My grandparent also had a farm where their [sic] raised cows, lamb and chicken. There [sic] got fresh milk and eggs daily. Also, they ate in moderation. They knew when to stop. My grandfather had this rule he followed daily. The rule was that he divided his stomach into three different areas. Areas one was for food, area two for water, and area three for air to breathe. That's how he was able to not eat too much. Notes: We all need a purpose our purpose is to commit to this summer program for 8-weeks.
Entry #2	Today was a somewhat surprizing day [sic]. I have learned a lot of harvesting and what it takes to get food to our tables. It was surprized [sic] how easily it was to harvest to onion, and how it was to harvest the cabbage. Today was a little bit hard, but also fun.
Entry #3	Today, we finally made hot sauce. It was a fun experience, a little challenging, but a lot of fun. The sauce was a little strong, but all ends, ends well. Hopefully, we have more days like this.
Entry #4	Today we went to Ms. X and learned about food safety and how to cook different kinds of beans. I learned how to make a really good salad and some cornbread which was to die for. I would like to have those receipes [sic]. I hope

	to learn receipes [sic], that I would love to make.
Entry #5	Yesterday, my group and I planted blueberries. Something that surprized [sic] me about planting blueberries is how much work go into replanting the berries. First, we must cut the new growth and then we much cut the new growth it is too long, so that they may be able to fit in the little trays we filled with moist soil. Once, we did that we put the newgrowth [sic] is a hormone solution and then plant them. It is a lot of work, plus there [sic] are so small.
Entry #6	I guess one thing I learned about respect is to sometimes take the back seat. For example, yesterday, in the kitchen I knew how it makes beans, instead of acting like I knew everything I let my group members have the experiences of making the beans, and giving helpful tips now and then.
Entry #7	If I were to introduce myself to my cusomers [sic] I would say something along the lines of “Hi my name is ____ I am put [sic] of a summer program attend McKinley highschool, and our project this year is to able to sell hot sauce. Would you like to buy some hot sauce. Today we are going to farm in Zackery [sic] to meet a farmer named Yasin. A question I would ask him is “ how many crops he grow. Does he farm year around. What is his best selling crops or products and so on.
Entry #8	Today, my group finally bottle the green hot sauce. The green hot sauce is good, but I like the second batch of red hot sauce better, we also went to hill farm today we propagated blueberries and basil different varaitions[sic] of them. When we finish with that we planted dill. Finally, we help weed around the pepper and also put hay around the pepper plants to revert [sic] the weeds from growing around. The hay also protects the plant from dying too. I enjoyed today a lot.
Entry #9	I learned how involved it is to be a landscape architecture. You have to think about site assessment, your vision and the design intent. Today, we also thought about how we would like to design the community garden. It was fun to design our vision of the garden.
Entry #10	Yesterday was a busy day first we went to the Hill farm to pick peppers. The group had some problems with teamwork hopefully, those individual had so [sic] time to think about their teamwork. Next, we went to rural life museum, waite [sic] first we picked purple hull peas. I have never seen purple peas before. Finally we went to rural life museum. It was amazing to see how different people live before and after the civil war. It seem that they only had what their [sic] needed, and their [sic] seem to live a simply life. The experience was eye opening, some to take home and think about.

Female, Age 16

Entry #1	My grandparents eat the same thing I eat because my family is from Nigeria, and we eat a lot of cultural foods. The only difference is that they ate with moderation. Some things they ate were: couscous, cracked wheat, white yam, towo (tofu), rice, potatoes, lamb and much more... Purpose: to learn to plant
Entry #2	Today I enjoyed and learned how to pull onions and cabbage. I expected it to be hot with lots of mosquitos, but it wasn't. I learned about flowers and how to



	pick out a ripe fruit.
Entry #3	I really liked today. I love to cook and the food was really good. We should do this more than once a week.
Entry #4	What surprised you about planting herbs or blueberries? Nothing really surprised me because I already new the process. But I did learn only about 20% of the plants take root. (My group planted blueberries)
Entry #5	What did you learn about respect yesterday or working in a group? I learned it takes a group effort to get thing accomplished and that one bad apple can ruin the experience for everyone else.
Entry #6	When selling hot sauce you have to be prepared and confident. You have to make sure you are not rude to the customers or you will put them off. You have to be sure you know what you are selling.
Entry #7	I liked today's experience. I had a lot of fun and I learned a lot. I liked designing the garden.
Entry #8	I enjoyed going to the rural life museum yesterday. It was educational and fun. I wish we had more time to look at things instead of rushing. I would like to go back and see the move [sic]. I was disappointed that I did not get to see the garden.

Male, Age 15

Entry #1	What did your grandparents eat? My grandparents ate more local and organic thinks [sic] than most people. They ate poetatoes [sic], sashage [sic], cabbage. They ate more home cooked meals and didt [sic] go out to eat. Commit yourself to this program.
Entry #2	Today we harvested the onions and cabbage. The harvesting wasnt[sic] too much fun, but when we started talking about selling and bottling [sic] hot sauce I got surprisingly excited.
Entry #3	Today we had a good discussion about what we ate for breakfast. We also bottled the hot sauce today and I was suprised[sic] w/the flavor which, was good... but the smell was bad.
Entry #4	Today we learned about the different species of "chile" and now you can tell the difference between the species. I thought the peppers would be grown in Louisiana but they are all out of state chiles.
Entry #5	Today we harvested some peppers and also okra.
Entry #6	Yesterday we harvested purple hull peas, and chile peppers. After we harvested we visited the rural life and looked at all the old buildings and structures. We also got to see what their life was like.

Female, Age 17

Entry #1	How did your grandparent eat? My grandparent really didn't eat very different me. They ate a little more vegetable than me but as far as for faty [sic] food they are [sic] them too. They probably didn't eat as much fast food as I do, because they know how to cook and I don't. Well this is probably how they ate and what I eat. For the next 8 weeks you will need to learn how to work. Also to commit
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	yourself.
Entry #2	I had a great time today harvesting the vegetables. I thought it was going to be very hot but it wasn't it felt a little cool. We had to pick to onions and I thought it was going to be long and hard but it was fast and very easy.
Entry #3	Today we learned how to track what we ate and where did it come from. We also bottled some hot sauce. It was very fun and a good experience for me to learn to work hard at something. We also walked over to a place where we are going to start a community garden. We had a great time today.
Entry #4	Today, I learn how to cut from a blueberry and replant it. You need to make should [sic] that every preplant you should make should [sic] that everything is properly done. We learn how to cook beans and learn how nutrient it is. To make show [sic] that you wash your hand and wash all of your vegatables [sic].
Entry #5	I learn today about how to sell hot sauce. I learn the tecnique[sic] of how to be a good sellerman [sic]. I learn how to cook a good and happy meal. Also calle [sic] chili pepper. The pungent pod of any Chile- anything consisting of the capsicum plant or the fruit
Entry #6	I learn how to make cabbage and grits and Monterey jack frittata and it come out great. Everyone want to eat our cabbage. They didn't have any of our food left. I had a great time today and hope that it will be like this every week.
Entry #7	How would I sell my hot sauce to people? I would introduce myself and tell the people why I'm selling the hot sauce. I would say Hi, my name is ___ and I'm selling hot to profit the children.
Entry #8	Today we went to Hill Farm and seeded dill plant. We had to put dirt or soil the 3 by 2 pots. Then we when [sic] to plant blue berry [sic] clipping. We finish the day by pulling weeds and putting hay on around the pepper plant.
Entry #9	I had a great day today. We when [sic] to LSU and met a lady named Sussie [sic]. She was very nice and helpful. She taught us about landscaping. She said everybody had good ideas and that you should speak up and say so good thing. We needed to design our community garden. I hope that this will be a great thing that we want!!!
Entry #10	Yesterday we when [sic] to pick pepper. We had to pick all red pepper. The [sic] we when [sic] to pick purple peas. It was really muddy. We when [sic] to rural life museum.
Entry #11	What could we do to get our hot sauce out? Get the store together. Going on the internet and making a website Everybody get out there and helping to get the hot sauce sold. Sale to supermarket. One drop and you can't stop. One deep [sic] make you drop it like it hop. Check some book out of the library about marketing.
Entry #12	My future carrer [sic] plans are to go to college and work in the fields of mortician.

Female, Age 17

Entry	Today we cut stems of the blueberry trees and we plant them. We put soil in
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#1	<p>planting trays and we took the blueberry stems and we dipped them in hormone liquid and then we put them into the soil. We left and came to cooking class. We watch a video on food safety, and now we are going upstairs to cooke [sic] red beans. We cooks [sic] black beans, prepared corn bread, cut up fruits and make salad. After that, we cleans [sic] up our area and sat in our tables and ate our food.</p> <p>Nothing was new about my cooking experience because I worked in my house every 2 days and yes I have cooked beans before. I cooked it almost everyday because my boyfriend loves to eat salad with bleu cheese and prepares fruit salad. No I don't prepare it. Only for occasions.</p>
Entry #2	<p>What surprised you about planting herbs or blueberries? I was surprised that we had to use hormone liquid for the ends of the stems. And I was surprised about how they grow the blueberries. I assumed that you plant a seed to grow blueberries but instead we cut the stems off the blueberries and dip the ends of it in hormone liquids. Then we plant them in the soil.</p>
Entry #3	<p>I learned to respect everyone that is around me. Even though some might not respect me. I will try to respect them by any means. I will show my group member respect so that they will respect me back. If I don't that will lead to problems and me gettin [sic] kicks [sic] out of the program. And I also have to show respect to my leaders when they are speaking or trying to help others and I am interrupting [sic] them. I should show them respect in all ways and others who we listening.</p>
Entry #4	<p>Today we talked about respect. Proactive and reactive and people's background. We talked about how to act right among each other. After that, we wrote and drew some pictures of how we want our posters to be presented outside for the market. Mr. Sabree came in and helped us present our dieas and pictures and the ones he liked. He picked them up. Then we bottled up hot sauce, we ran out of hot sauce, asked that we clean up our area. Group 4 prepared the food and we ate. First group 2 cleaned up. All together today was fun. We were supposed to go to Zachary but couldn't go due to flooding at the farm we were supposed to visit.</p>
Entry #5	<p>Today we labeled hot sauce and wipe them down, then we left and went to visit a market on Florida Blvd. It was called Red Stick Market. While we were there, we survey the farmers and sold lemonade and hot sauce. The lady in charge gave us the money we made selling the lemonade. We sample [sic] food and learned more about the farmers and why they farm. I learned that they farmed vegetables, fruit, milk, flowers and strawberry is there #1 crop. We have group 2 outside selling fruit, vegetables, and hot sauce for our market. We are about to be interview [sic] by Channel 9 news about our market. Then we are going to label some more hot sauce and then talk about our survey from the farmers at Red Stick Market. After that we eat lunch.</p>
Entry #6	<p>Today we cooked. Our group cooked smothered cabbage with grits and Monterey jack frittata. Everybody made frittata in their own group. We had potato frittata, grits, coleslaw, cabbage, muffins, fruit bread and many more delicious food. After that we ate our foods and everybody had a lot of foods on their plate. Today was fun and cooking was fun and eating too. I learned how to</p>

	cook variety of frittata.
Entry #7	How am I going to sell hot sauce? We should stand up when customers come by. Hi sir, mam, would you like to try our hot sauce or devote money to our program? Then I tell them about the program. I attend McKinley High. My school is doing a program with LSU Horticulture and we are preparing hot sauce with them. This program helps us learn more about business, how to be a good salesperson, and also learning about nutrition, and harvesting our own food instead of eating unhealthy. We can plant our own food and learn how to use it resourcefully. Thank you for supporting our program. Have a nice day.
Entry #8	Today we went to the LSU Hill Farm. Four people from our group went to visit the Market up Florida Blvd. The rest of us went to the Hill Farm and planted rosemary. We picked okra up and pick up [sic] variety of peppers. We removed the weeds from the ground and put straw on the rolls [sic]. We also picked up egg plants [sic] and went to the greenhouse to see what we planted last week. We had planted blueberries to see how it grew.
Entry #9	Yesterday, we went to Hill Farm and picked up peppers. It was very hot and some people were complaining. After that we went and pick [sic] up peas at the Burden Farm. That was not fun. I had mud all over my shoes because I wore sandals. After that we went to rural museum. It was very interesting, but I have been there so many times. I saw Old School, carriages, paintings, jail houses for slaves when they act bad, churches, and many other things. It looked like slaves were treated really bad and if I was born during era, I would have poisoned my master and his family and take over their farm, or move north for better, well try to escape. Disguise my face as a white person.

Female, Age 14

Entry #1	How did your great-grandparents eat? My great-grandparents ate healthy stuff like greens, kush-kush [sic].
Entry #2	Today I learned how to harvest fruits and vegetables [sic].
Entry #3	Today we bottled hot sauce and traced back your breakfast back to the plants and animals and this week was fun.
Entry #4	Today we watched a video about food safety and we cooked some food they taught [sic] us how to eat healthier [sic] and how to cook.
Entry #5	What surprised you about planting herbs or blueberries? I did not know that it was so easy to just plant them like we did. What was new about your cooking experience? Had you cooked beans, fruit salad, etc.? It was different because I had never cooked beans before and it was a new experience. What did you learn about respect yesterday or working in a group? I learned that no one person can do it by thereself [sic] that sometimes it take [sic] hard work and group work to get things done easier and faster.
Entry #6	Today we went to the hills farm at LSU and went learned about all kinds of pepers [sic] and we picked some and then went to go cooking with Miss. Judy

	and we cooked muffins and something else but I forgot [sic] the name of it.
Entry #7	Today we went to Mr. Yaseen farm and he told us about his chicken process how long he has been farming all he does then after that we went to his cousin [sic] farm Mr. Wicker farm and he gave us a cucumber and that is all we did.
Entry #8	We went to the Hills farm and we weeded pepper [sic] plants , propagated [sic] blueberry plants and planted pepper [sic] seeds and that all we did today.
Entry #9	Today we came to the arts and design building to see Miss Susan and we drew a picture to design the garden [sic] for the community Garden and we went to see the structure of the interstate map of Baton Rouge and Louisiana. But today was a really nice day and I look forward to seeing the design of the Old South Baton Rouge Community Garden.
Entry #10	Yesterday we went to the Burden Farm and we harvested purple hood [sic] peas and we also harvested peppers [sic] for the hot sauce. Oh and we went to Rural Life Museum and saw how hard the slaves [sic] had it back then.
Entry #11	The internet set up a website. Sends wal-mart a package to help us sell our products. Speaker Mr. Howard White. Get AG to try to sell the hot sauce [sic] to different stores. How is the hot sauce [sic] different? Slogan, brainstorm on a slogan . On [sic] drop you can't stop. Get some books from the library [sic] to form committees. Get a book on business plan suggestions. 1) When talking to people, always make eye contact and have a firm handshake (even ladies) 2) Ask a lot of questions

Male, Age 15

Entry #1	Yesterday while in the kitchen with Mrs. Judy, I learned a lot of stuff like how to eat healthier [sic]. We learned that the stuff our grandparent ate is more healthier [sic] than the foods we eat today fish oats grits eggs all natural food not any processed meats and fatty foods.
Entry #2	Today I learned how to harvest cabbage and onions. We picked them a [sic] loaded up in the truck they plan washing them tomorrow.
Entry #3	Today I did the farmers market we sold lots of vegetables and fruits. I was at how many people came. We made 63 dollars and helped a lot of old people and young people. And it was great.
Entry #4	Today I learned how to plant basil . We cooked red beans. I cooked the rice and made a fruit salad. I had a lot of fun. I made the best.
Entry #5	Yesterday I plant so [sic] stevia. I didn't learn anything about respect I already know how to respect people.
Entry #6	Today I harvested some okra.
Entry #7	Yesterday we went to the rural life museum to pick purple peas and to the slave museum. The museum was interesting. We saw how they lived and ate and did there [sic] daily work the plantation was a really good plantation. It opened my eyes and made me appreciate the things I have more.
Entry #8	Today I learned how to plan and make our garden. We had a lot of fun. We had to vision and we has [sic] assess the site we planned but how the whole garden to look it was tight. I really liked this and the teachers [sic] was super funny. She

	kept us laughing the whole time it was a awesome experience.
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Female, Age 16

Entry #1	What did your grandparents eat? My grandparent [sic] ate blackeye peas, cabbage, salare [sic] and green peas to stay healthy.
Entry #2	Today was pretty fun we did a lot of things like pick for cabbage and lots of vetables [sic]. We also picked for green peppers and egg plants.
Entry #3	Today we made hot sause [sic] and we bottled them it was a great insperince [sic] for me because I learned a great thing to do. We also made sandwiches today.
Entry #4	What surprised you about planting blueberries today? It was my first time I didn't know that blueberries we're [sic] from a tree and they we're [sic] so sweet. What was new about your cooking experience? I never cooked blackeye peas before. When I tried it for the first time it was pretty good. The beans and the fruit salad looked pretty good but I didn't try any. What did you learn about respect yesterday and working in other groups? I learned that you have to get alone [sic] with everyone. I also learned that you have to work as a team.
Entry #5	Yesterday we went to cook with Ms. Judy and we made all types of new things like fruit salad and other things it was real fun for me and I really enjoyed it and then after we left Ms.Judy we went to pull roots up out of the ground and it was really creepe [sic].
Entry #6	Today we went to Hill Farm and we planted seeds and it was real fun to do even though you had to get dirty. We did three trades [sic] of dirt and we put seeds in it like 3 to 4 seeds in each hole, but inside the dirt it was fun.
Entry #7	My vision for the committee garden is that it would grow real good next year because I want to see more fruits and vegetables. We looked at pictures and we looked at a landscape that was done in 6 months and it looked real great.
Entry #8	Yesterday we went to the world life museum and we saw a video about the slaves that were there long time ago and I really like it because we saw the slave house.
Entry #9	How to sell more hot sause [sic]? -multiple locations -internet -brainstorm -have a tag line How is our hot sause [sic] different? -Natural -only has peppers, salt, vinegar - local in our neighborhood Ask Questions

Female, Age 16

Entry #1	How my grandparents eat? Well, I really don't know how my grandpa eat, because he lives so far away from me, but my Grandma was a very good cook,
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	<p>she was the head chef at her job. Stuff she liked to fix was chili beans, chitlins, even though I don't like it that much, but she always eat it, she loves baking sugar cookies, which is her favorite, but she ate everything that I ate, but now she passed away in 1997 and I really miss her.</p> <p>Need to have a purpose: To learn new things about farming. Learn how to make food, besides, cooking</p>
Entry #2	<p>What I've learned today. I've learned how you have to check for good looking vegetables and how squash are in different colors, and different shapes. I realize how snap beans are developed and if I was in a factory, I would learn how to peel it.</p>
Entry #3	<p>This was a very long day, but very fun. Everything was cool, until we got to YMCA and a old woman was complaining about her change and we were telling her we was going to get the change, but that's business.</p>
Entry #4	<p>The things I learned about respect, and working in groups is you don't have time to paly around, you have to be committed to your work and if you don't understand it, then you should ask for help, as soon as possible. And you should also have respect for whosver helping you, and the people that your working with. You shouldn't push people around, but if you do, you don't have to get a attitude with it, because they're not going to want to do anything at all, and the job won't ever get done.</p>
Entry #5	<p>The stuff that I learned about growing, I am growing lime plants and it's something that I never seen before, and I'm looking real forward to learn more about it.</p>
Entry #6	<p>What we cooked yesterday was, I really can't remember the name of it, but the ingredients was tomatoes, cheese, and that's all I can really remember. Then we baked wheat bread with cinnamon, and the fruit, this was one of the best things I ate so far, since I didn't get to try anything else, because all the food went away too fast, and ___ eats everything up, but people was hungry, so I don't have much to say.</p>
Entry #7	<p>What I've learned today was peppers have different colors, and I've never seen a jalapeno pepper before in my ilfe, and it was so amazing to see one. I've also learned that okra has to be picked every day in order for more to grow.</p>
Entry #8	<p>I learned that we have to make our community a better place for people to enjoy relaxing, and just hang out.</p>
Entry #9	<p>What we did yesterday was harvest peppers, and then we went to the Burdens farm, and harvested peas. At first I thought you had to pick the peas that's green but it's really suppose [sic] to be purple. After that we went to the museum, and watched a 5-minute video about the museum. Then we went to see the church, school, and other stuff.</p>
Entry #10	<p>We're the McKinley Farmers of Tomorrow and if you need something to spice up your mouth, the McKinley Farmers of Tomorrow Hot sauce is what you need.</p>
Entry #11	<p>Business man from Top Choice: Howard White          Producer-Manufacturer          Internet-setting up a website, like inventing video games, or good ideas for your website          Product: Hot sauce</p>

	<p>Ingredients: Peppers, vinegar  Slogans: One drop, and you can't stop  One swallow, will make you pop your collar  One swallow, will make your taste buds holla</p>
Entry #12	<p>Curtis Parker, Jr.- Program of academic excellence, to increase people's awareness and diversity  Diversity- Culture, race, languages</p>
Entry #13	<p>Good evening, ladies and gentleman, it has been a great pleasure to be here today, and I really appreciate you all for coming. This has been a terrific experience, and a lot of fun, although we did have some difficult times, we always managed to fix it. I have learned a lot of stuff on this program, like cook, advertise, and have lots of fun working, and meeting new people. Thank you all, you're the best.</p>

Female, Age 15

Entry #1	<p>What did your grandparents eat? Well, I'm really not sure, but I know my grandparents told me that they grew everything they ate so, I believe they ate potatoes, greens, cabbage and more growin products they had and I'm sure they ate meat also.</p>
Entry #2	<p>Today we harvested fruits and vegetables and I expected it to be a lot worse than it was. Before we went to the farm to harvest one of our counselors had told us that there would be snakes and spiders and other insects, but really their [sic] werent [sic]. They were actually not a lot of bugs and it was fun to learn how to cut and put cabbage in the bag and learn it is good to leave the other leaves on it.</p>
Entry #3	<p>Today we basically bottled hot sauce and we also caped [sic] them, put the food we ate for breakfast, and traced them back to either a plant, fruit, or animal. We also looked at our well soon to be community garden at a empty space in this neighborhood.</p>
Entry #4	<p>Yesterday, myself and others in the group cooked and ate our own food. My group prepared cole slaw [sic], and a thing called "frittata". It was actually very good and delicious. Al the food was good but sence [sic] it was such a diverse mixture it all did not agree with my stomach.</p>
Entry #5	<p>Today, we did three things involving all of the groups, except group 3 which stayed at the market to sell hot sauce and all the rest of the produce, we picked weeds, harvested blueberries, and planted seeds. We also bottled more hot sauce, but this time the hot sauce was green.</p>
Entry #6	<p>Today, we basically picked okra, bell pepper, and more, it was very fun. We also saw the plants we seeded the last time we had gone to the garden. The last thing we do was lay more hay, pick week, and plant more things. Thank you!</p>
Entry #7	<p>On this day, we picked peppers at LSU for the hot sauce for next years group. We also picked peas at the Burden Farm and afterwards we had gone to a Rural Life Museum where we saw sick houses, where the slaves use to say (slave houses) and the old churches in school. It was really inspiring because it showed how slavery was ad [sic] it was really sad. It taught me not to take anything for granted.</p>
Entry	<p>Notes: How to market your product.</p>



#8	<ul style="list-style-type: none"> <li>- Ask for companies to market or buy your product or can you use their company to sell your own product to others</li> <li>- Make a website where others can maybe see where to buy your product, how much it cost, and what the job or program represents</li> <li>- What's different from your product than the others?</li> <li>- What does it mean to market a product?</li> </ul>
Entry #9	Well we learned about landscaping and how outlining and more can help you accomplish your goals. I've also learned today that some of the landscaping students didn't always know how to draw but as time went by they progressed and got so much better. I saw a model of New Orleans ad [sic] it looked amazing. We also outlined ad [sic] drew how we would like our soon to be community garden ad [sic] everyone had some really great ideas. This day has been very interesting ad [sic] a very good learning experience for me also.

Female, Age 16 (did not complete program)

Entry #1	<p>What kind of food did your grandparents or great grandparents eat a lot of ?</p> <p>Well, I never really got to know neither of my grandparents and when I did meet my father's mother, I was too small to remember what he ate. What I do know, is that she loved fresh fruits and vegetables (home grown) from the local whole market in Memphis, TN. That's where we stayed before we moved to Atlanta, and then here.</p> <p>Before you go out to a garden: You need a purpose. After today make a commitment.</p>
Entry #2	Today we went to the Burden Center off of Essen to harvest on a farm. We harvested 3 kinds of onions, yellow, white and red. We also harvested cabbages, bell pepper, squash, snapines[sic], eggplants and tomatoes. It was fun and it wasn't as hard as I thought it was going to be. It wasn't as hot either. We did great teamwork and did a job well done. I was especially happy when we got done. I had a delicious sandwich.
Entry #3	Today we talked about our breakfast and where we think it came from. We bottled hot sauce with turkey basters and that was a lot of fun. We also set up and sold foods from the market.
Entry #4	What surprised you about herbs or blueberries? How slow they take to form
Entry #5	What was new about your cooking experience? It was new because I've never cooked pinto beans and made homemade Italian sauce.
Entry #6	What did you learn about respect yesterday or working in a group? Everything can't be your way. Everything you do you have to decide in a group.
Entry #7	Today was a good day. We went to the Hill Farm at LSU and learned about different kinds of peppers. We learned the difference between chile and chili. We also went to cook with Ms. Judy today. We cooked cabbage, fratatius[sic] and more. It was wonderful and very nutritious.

**Participant journal entries for 2008 for each student, including gender and age. Not every student completed the program, therefore they do not have a student number. Each student number correlates with the responses on other surveys given.**

Male, Age 14

Entry #1	Today I worked alot[sic] like I never worked before. Now I am very tired
Entry #2	Today we went to bourdon [sic] farm and piced corn. Picking corn is much better than picking peas because you don't have to bend down. We also learned how to tell when a melon is ready to be picked.
Entry #3	Yesterday, we went to the bourdon farm and did everything possible. We did corn, okra, melon, peas, and beans. The day before yesterday we went to Mrs. Judy and everybody cooked beans and made salad and/or muffins. I ate more beans then [sic] I was supposed to eat.
Entry #4	My Summer Experience taught me that I can have fun farming. I had lots of fun doing this program. I know everybody well mostly everybody had fun we had that fig fight. Everywhere we went there was always one person that had to ruin everybody else[sic] fun. Well, I also didn't like when we go to bourdon because, there was always one or two people that had a promblem[sic] but they always were faking. That's most of the things I remember that pissed me off.
Entry #5	Yesterday, I had so much fun. We went to Zachary and went swimming. We had rafts and noodle's [sic] and some other kind of floating devices. We threw everybody in the water if they did or didn't want to go.

Male, Age 17

Entry #1	On today we had cooked a variety of food with Mrs. ____ in the kitchen lab. In the kitchen lab we had cooked succotash, curried okra, rosemary salad, macaroni and cheese, and vinalla [sic] icecream [sic]. It was good and I liked it and it was also fun.
Entry #2	On yesterday I had fun at the comite river, Because we got to swim in the water or play in the water, we was listening to music and eating so I had fun.

Female, Age 16

Entry #1	Today we went to the Burden farm. And we picked squash, potatoes, beans, cucumbers. We pick a whole lot of rows, and it was very very hot and we were out there from 8:00 until 11:00 something.
Entry #2	Today we were divided into groups. One worked the market. One did signs, one went to the farm and picked corn which is what I did which was easy. We got the worked [sic] done fast it was kinda [sic] of a break today.
Entry #3	Well yesterday we went to Ms. _____. And before we went to the kitchen we talked about the importance of egg. And how to balance out sugar, salt, pepper, vineger [sic], etc... After we got upstairs well my group started to wash hands and read the recipes. My group cooked cabbage and rice. And I forgot what else we cooked but it tasted like a big egg.
Entry	We worked hard today. We picked a lot of stuff. There was a lot of teamwork. A

#4	lot of positive things. I'm looking forward to tomorrow. It was fun. Because we played a game while we harvest [sic]. What a day.
Entry #5	Today we went to Ms. ___ and we cooked. But before we went there we watched a movie. It was about the important facts about farming. But when we got to cook everybody worked really hard. In the end we was very successful because the food was really good. Plus we had some home made Ice cream. But it was fun.

Female, Age 20

Entry #1	We went to the Burden fram [sic] today. It was hot, very hot. We harvest: potatoes, squash, cucumbers, melons, snap beans
Entry #2	Today was a fun day. I work [sic] in the framer [sic] market we sell the things that we had harvest.
Entry #3	On June 17, 2008 we went to Ms. ___ Kitchen and I had fun. First we watch a video then we went to the kitchen. My group cook potato [sic] fritanna [sic] and the insides were potato, egg, bell pepper and onion. We had the best tates [sic] out the whole kitchen. We got our work shirt yesterday the colors are green, blue, and orange I like the shirt but the other complied [sic]
Entry #4	Good afternoon. My name is ___ and this is the 2 <sup>nd</sup> year I had done this program. It's been very fun this pass to [sic] summer. Last year was my first ever having a real job. And I was so glad when they pick me the second time, because I must had to do something right. Know [sic] I'm a leader and it's real cool when people have to look up to you or ask you question that you already know about what you are doing. This year our t-shirt colors where [sic] Tues- blue, Wed- green and Thur – orange. Tues we went to the kitchen and cook on Wed. we went to the farm and harsvet [sic]. On Thur. we had framers [sic] market or some on [sic] us went to harvest. One day, I went to Ms. ___ kitchen and we cook red bean and they did want to give me sugar. But Ms. ___ said it was not healthy. One day I went to the fram [sic] and I didn't eat that morning and when I went out in that heat and I almost fell out, but I glad I had lots of water and juice. Thu. We sell our product that we plant.

Female, Age 15

Entry #1	What did you learn today? I learned that all vegetables are brought from the store with Clorox on it. What was a new experience you learn today? My new experience was being in the sun all day, and pick stuff.
Entry #2	Today was the easiest day other than Tuesday. My group were selling the food at the farmers market. It was work but it was still fun than usual. I also did some drawing and painting for the farmers market signs. We had sandwiches and fresh fruit for lunch. By the way I got paint in my hair!!! My day today was unforgettable.
Entry #3	Tuesday at Mrs. ___ kitchen we had fun. My group cooked pinto beans which the rest I ate last night “ delicious”. We also cooked rice and corn muffins they were good especially the corn muffins. The worst part was choppin [sic] the onion they really made me cry.

Entry #4	Yesterday we went to the farm unfortunately it was auctually [sic] fun. We picked corn and cantaloupe, and also preped [sic] the corn and potatoes for the boil. It was also fun when we had some corn and potatoes at the farm at the boil. The number one thing was no complaints at all.
Entry #5	Well today I think that Ms. ____ made our farming experience fun and easier. She made a scavenger hunt so the teams can compete against each other. We had to pick cantaloupe, pies, squash, cucumbers, and corn. Even though the crazy corn croppers were suppose[sic] to win, unfourtunately [sic] we had to wait on the black group with the okra. We had to be the last in the winnings.
Entry #6	Well, last Wednesday we went on this big field trips to different farms. We went to a chicken farm first. There we seen where and how whole chicken is processed, how they lay eggs, and how an organic crop look. We also went and seen peacocks, goats, horses, pigs, dogs, bulls, different species of birds. The best of my experience was feeding the peacock and holding the goat.
Entry #7	Yesterday we were given the priveledge [sic] to go to the river in North Iberville. We had so much fun playing in the water with each other. We made sure everybody got soaking wet. I guess because that's what made the fun. They got me good when I was floating in the floater. I have a couple of cuts and bruises but it still a lot of fun.

Female, Age 16

Entry #1	Today was harvest day and it was hotter than a monkeys armpit outside. The potatoes we picked some of them were rotten and it made the fields smell cow manure and some of them even looked like it. I did a lot of complaining well, everyone did. I was ready to go home.
Entry #2	Today was much better than the other days. Today was market day. Some people stayed at the complex while others went to the farm (me) and we picked corn, cucumbers, and a few squash. Today I ate raw corn right off the stalk. It was good, sweet and juicy. There wasn't any complaining at all. Now I'm tired and might have gas. LOL
Entry #3	I was not here Tuesday for the cooking class but I heard they cooked red beans. Yesterday was harvest day and we picked corn, beans, peas ( I think) melons that smelt like the trash and they boiled corn and potatos [sic] for us and they were so good.
Entry #4	Today was the best day out of last yeat. Ms. ____ made up this game for harvesting and we were in our groups. We had to figure out the clue and then pick a certain amount and it was so fun. We picked the veggies everyday. The red team finished first. Then after ward we were on the news then it rained so we went to eat at LSU and it was good and there they finished the interview and we had fun sitting and talking about the people that walked by and now we're at the complex waiting to go home. Yesterday, we made chicken, sausage, and okra gumbo and cake. It was good!
Entry #5	Today we made icecream [sic] and curried okra when I made last year out came out better
Entry #6	This year was pretty ruff [sic]. But in the end it was all worth it. I learned a lot about people and myself. This is my second year and it seems like it was a lot

	<p>harder. Last year we weren't in the fields as much but I didn't really complain b/cuz [sic] this is what I signed up for. The most favorite day that I had was when we had the scavenger hunt on harvest Wednesday. I think that that was the best day, not that I like picking vegetables but that day went by so smooth it was hot and I was tired but all the fun made up for that. The cooking class this year was way better because I had a chance to cook all the good food. I made gumbo it has the best gumbo in the world it had okra, tomato, bacon bits, sausage, chicken, omg [sic] it was all crazy. Then my cooking partner ___ baked a good cake and we made the ice cream. Nutrition class was all good. It showed how to cook w/o [sic] having to use so much salt and grease and things that aren't good for you. And on Thursdays that Farmers Market will really show you the essence of hard work being out there in that hot sun trying sell some vegetables is not one of the things you would find me doin [sic] in the summer but it was fun and you could really learn a lot about the communities eating habits. The things they like and what they don't like. But this year went by fast and I'm excited to take what I have learned and tell other people about it.</p>
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Female, Age 15

Entry #1	Well, today I can truly say I've learned that I wouldn't like to be a farmer. But, I would definitely [sic] probably garden on my own. And I also learned that harvesting takes a lot of energy out of a person. We picked potatoes, squash, cucumbers, okra, snap beans.
Entry #2	Today I had so much fun painting. I even got to try selling some vegetables [sic] in the market. And we had a great day!
Entry #3	Yesterday, we had so much fun. We also learned how to cook good food with eggs.
Entry #4	Today, we harvested veggies. And Ms. Kiesha made it so fun because we played a game so our work load would be less. We also sung songs. Then Paul Gates from Channel 9 news came and spoke with us. I'm very excited because we get to be on the news tonight!
Entry #5	This summer I can say truly say that I learned a lot about farming and myself. I learned it was hard work every Wednesday going out there picking vegetables. Now I understand how much work real farmers go through. One thing I won't forget is the day that Ms. Kiesha made a game for us to harvest. Even though it was rittles [sic] it was fun. Then when we would go to Ms. ___ cooking class on Thursdays and learn how to cook healthy! My favorite thing we cooked was the shrimp-corn soup. I also learn to try new things. The day we went to the farm was amazing. I got to hold a baby goat and a chic. We all had good days and bad ones but that's what made it so great. I also learn how to bottle hot sauce and own and manage

Female, Age 15

Entry #1	Today I learned how to work hard and sweat. I learned how to work together. Also I learned how to pick green beans with the stem left on it because it last longer that way. I even picked potatoes and carried carts back and fourth [sic]. A new experience for me was actually working out in the sun for hours. Also, I
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	experienced the beautiful sights of corn, watermelon, and other fruits and vegetables [sic].
Entry #2	Today we all split up into 2 different groups. Some stayed and worked the market but me and my group went to the Burden and Research Center. We had fun working together and we finished very quickly. After that we came back and talked for a while then we ate. Today I learned that the male is on top of the corn and the female is on the bottom. When both of them join then the corn comes out.
Entry #3	Well on Tuesday we all went to Mrs. ___'s class. We learned about Greens, Grains, and Beans. We even watched a video on knives and how to properly use them. We split up into groups and my group cooked red beans, rice, and corn muffins. After that I ate and had a good time. On yesterday we all went out to LSU Burden Center and picked vegetables. It was very hot as usual. We boiled corn and potatoes and ate sandwiches [sic]. Then we went home but through it all it was fun.
Entry #4	Yesterday we started off good. We all split up into groups and made funny commercials about the hot sauce. After that we went to Mrs. X's class. We learned about eggs. Like how to tell how old they are or which ones are the freshest. In my group we cooked a mushroom frittata with eggs, green onions and swiss cheese. I sampled everyone's food well mostly and it was kinda [sic] alright [sic].
Entry #5	Today I had a lot of fun. Well when we got here we talked with each other then we had a guest speaker. His name was Silky Slim. He talked about his life and told us to make the right choices. When we made it to Burden we had a scavenger [sic] hunt. We all worked in groups to see who would finish first. Well my group wasn't first but we did it. Other than that I enjoyed myself a lot. Ms. ___ really made our day go faster and fun at the same time.
Entry #6	Well last week we went on a field trip to a few farms. We went to Port Hudson I enjoyed it a lot. At the farms there were goats, chicks, horses, and peacocks. Oh and even the pigs. I took lots of pictures and I even learned the process in which the chickens were cleaned. Last, we went to the river where there was water and a lot of sands. Well I really enjoyed my last day.
Entry #7	Yesterday I enjoyed myself I had a lot fun. Even though I didn't plan to get wet I did anyway. But it was actually fun being wet just like everyone else. We all got along with each other. We talked and listened to music. I played in the sand then I decided to lay on my towel. After that I took some pictures then we all ate and then we left.
Entry #8	Well throughout my eight weeks that I have been here I accomplished a whole lot. I learned how to work together and don't give up and push myself until the job is done. I have even experienced a lot with farming, like picking corn, peas, squash and okra. Some days I really didn't feel like working but once I got to the complex and we all began playing games I got pumped up and ready to work. I looked forward to going to Ms. X's class every Tuesday learning to cook because she taught me a lot. Like eating healthy, and more nutritious. I had a lot of fun cooking with ___ and ___ because together we got the cooking job done. I'm going to miss everyone dearly.

Female, Age 16

Entry #1	<p>Working on the farm today, and being under the really really hot sun made me realized [sic] that farming is not an easy job and farmers should be given more respect. We should be more appreciative of farmers because without them, we would all starve.</p> <p>A new experience to me, means a lot because, being in someone else's shoes and knowing how hard the nature of their job is, is a whole new experience for me.</p>
Entry #2	<p>Today, we painted signs to market the produce. We had a chance to put our ideas together and be creative. I also had fun painting and playing around with colours [sic]. Today was a very fun day and I wish we could do it everyday.</p>
Entry #3	<p>Today in Ms. Judy's class was very fun because I got a chance to cook and try something I had not eaten before. I got a chance to cook black beans which wasn't so bad even it accidentally[sic] had a lot of pepper, I thought it was kind of tasty. I also learned a new recipe for corn muffins which I thought was also great.</p>
Entry #4	<p>Harvesting corn and cucumbers and beans. Harvesting today, was much better than the other day. Because we got a lot than very fast and there were no complains[sic]. I like the fact that everybody worked together and we got the job done. And oh, we also had some tasty juicy corn too.</p>
Entry #5	<p>Cooking Eggs. In Ms. Judy's class today we learned to cook eggs along with their safety and maintainance[sic]. My group combined some eggs with some veggies and grits. It was something I never had before and I thought it was great. I already knew how to cook eggs but cooking it in a different way was a great experience.</p>
Entry #6	<p>Harvesting with Scavenger Hunt. Today was a very fun day because we played a game of hunting for crops and the first team was done win a prize. Due to this, we worked really faster and finnished[sic] even before time.</p> <p>Ms. Keisha helped us with the scavenger hunt cuz [sic] she organized it and I thought it was cool. We also got filmed to get on T-V on channel 9. Also I eat lunch with Brown and Kiesha and I told them about the other crazy side of me. Having a conversation with them was fun and overall it was a really great day.</p>
Entry #7	<p>This whole Summer Experience has been very fun and tremendous because I got a chance to do something I never did before and I had fun with it.</p> <p>This experience in all has taught me a lot about farming and agriculture as a whole, and even though it might look like hard work, this experience has taught me that, you can make hard work fun.</p> <p>Another thing I've learned is that, team work brings out the best in everything. I used to not like to socialize a lot but doing this programe [sic] has taught me how to be in a group and work together with other people, which has increased my social life a lot. Am glad I joined this summer experience because what it has given me will last a lifetime!</p>
Entry #8	<p>Today we had went back to Zachery [sic] and we had a picknick [sic] by the river. We had a lot of fun and everybody got along very well. I had got mad a little when I got thrown in the water. But then I got over it and it became even much more fun.</p>

Female, Age 16

Entry #1	Today we went to the farm to harvest corn, cucumbers, and squash. We also learned how to tell if watermelons and melons are ready. We also tasted corn and some fruit we harvested.
Entry #2	Today was exciting. We worked as a team and got a lot done. I believe the scavenger hunt Kiesh came up with was amazing. It helped us move faster, kept it fun, and kept it fair. If it was up to me we would keep doing it with switching it around every now and then. Lunch was awesome as well. I can say I really enjoyed myself today.
Entry #3	On the field trip today I learned a lot about different animals. We seen poats, peacocks, pigs, horses, chicken, and roosters. All of people had fun taking pictures and petting the animals. I didn't touch anything though. It was cool though, except for stepping in poop and going by the river. Other than that everything was pretty cool.
Entry #4	This summer I learned a lot about hard work, teamwork, leadership and our natural resources. It was very hard to get along with in the begginin[sic] but I got used to it and it became fun. One of the most exciting things for me was the scavenger hunt. We worked as a team, did equal the amount of work and had fun while working. One thing the summer experience taught me, was to appreciate, appreciate a team, others, and most definenitly [sic] the people that do this for a living. I will definently [sic] miss all of the leader and for the rest of you guys I'll see you at school.

Female, Age 16

Entry #1	Today is Thursday so that means Wednesday and we pick a lot of stuff. Really wasn't fun but we did it any way it wasn't that bad. I'm still alive! Flexibility vs Resistance.
Entry #2	Yesterday was Tue so that means we went to Mrs. Judy's Kitchen. My group made banana muffins and fattan[sic] I think... It was kinda [sic] good kinda [sic]. I tried[sic] every thing and I'm still alive.
Entry #3	We went 2 the fild [sic] so that means yesterday we went the kitchen. Today was easier b/c we played a little game kinda cool. It went really fast. We ate at LSU union and had a variety of things. I had chick f lay it was good. Yesterday we cooked gumbo and cake it was good and I'm still alive.
Entry #4	Hey well last week we had a blast. We didn't go to Mrs. Judy's but we still ate. Thrusday [sic] we went to Laf. And we saw lots of farmers. 1 <sup>st</sup> we meat [sic] 2 men who grow plant and the eat wat [sic] they grow. We had meat a lady she was funny and had birdies. Then we went to like a lake put our feet in the H2O it was cool. Had lotz [sic] of fun.
Entry #5	Final thing... To describe my summer experience in one word I would say interesting while I learned a lot most of the time I was fighting with myself with weather [sic] or not I wanted to be here. It was interesting being around people I normaly [sic] wouldn't talk to. It was interesting not fun. I did this Summer Experience last year. Even though the food was better from last year I didn't have fun. I simply had a very interesting time.. later.



Entry #6	Yesterday was alright. We went to a lake. We got in the lake. We ate sandwiches [sic] they are grose [sic]. It was fun. I had sand between my crevices went home and took a shower. Went to bed. We threw everybody in the river including _____. It was funny.
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**APPENDIX E**

**SUMMER EXPERIENCE 2007 PROGRAM SCHEDULE**

**Summer Experience Schedule  
McKinley Farmers of Tomorrow  
2007**

Week 1, June 12-14, 2007

Tuesday – 12	<p><b>7- 8:30am</b></p> <ul style="list-style-type: none"> <li>- Outline of Program, Rules, Expectations</li> </ul> <p><b>9:00- 10:30am</b></p> <ul style="list-style-type: none"> <li>- Surveys at Horticulture Building</li> <li>- Walk over to Human Ecology</li> </ul> <p><b>10:30-12:00am</b></p> <ul style="list-style-type: none"> <li>- Cooking and Nutrition Introduction</li> <li>- Decorate Aprons</li> <li>- Lunch provided</li> </ul>
Wednesday – 13	<p><b>7- 7:30am</b></p> <ul style="list-style-type: none"> <li>- Finish Paperwork</li> <li>- T-shirt sizes</li> <li>- Pass out calendars</li> <li>- Journal on Great Grandparents Food and Yesterday’s activities</li> <li>- Prepare kids for harvesting</li> <li>- Break into groups</li> </ul> <p><b>8:00</b></p> <ul style="list-style-type: none"> <li>- Leave for Burden</li> </ul> <p><b>8:30 – 9:30</b></p> <ul style="list-style-type: none"> <li>- Go over rules</li> <li>- Give a tour of Burden</li> <li>- Groups harvest produce</li> </ul> <p><b>10:00</b></p> <ul style="list-style-type: none"> <li>- Leave for Islamic Complex</li> <li>- Look at different seeds</li> <li>- Tour Hill Farm</li> </ul> <p><b>11:00 -</b> Leave for Islamic Complex</p> <ul style="list-style-type: none"> <li>- Journal</li> </ul> <p><b>11:30</b></p> <ul style="list-style-type: none"> <li>- One group sets up for lunch</li> </ul>
Thursday - 14	<p><b>7- 8:00am</b></p> <ul style="list-style-type: none"> <li>- Market set-up</li> <li>- Decorate Journals</li> </ul> <p><b>8:00- 11:30</b></p> <ul style="list-style-type: none"> <li>- Farmer’s Market ( 5-8 youth)</li> <li>- Begin bottling hot sauce</li> </ul> <p><b>11:30 – 12:00</b></p> <ul style="list-style-type: none"> <li>- Journal entry</li> <li>- Lunch provided</li> </ul>

Week 2, June 19- 21, 2007

<p>Tuesday -19</p>	<p><b>7- 9am</b></p> <ul style="list-style-type: none"> <li>- Horticulture Lesson</li> </ul> <p><b>9:30- 12:00</b></p> <ul style="list-style-type: none"> <li>- Cooking lab with Dr Judy Myhand @ LSU – <b>BEANS, GREENS, GRAINS</b></li> <li>- Journal entry</li> <li>- Lunch provided</li> </ul>
<p>Wednesday - 20</p>	<p><b>7:00- 7:30am</b></p> <ul style="list-style-type: none"> <li>- Check-In</li> <li>- Share experiences about yesterday</li> </ul> <p><b>8:30- 10:30</b></p> <ul style="list-style-type: none"> <li>- Harvest at Local Farm</li> <li>- <b>Rain Plan –</b></li> <li>- Leadership with Mr. Sabree</li> <li>- Business Plan for Hot Sauce</li> <li>- Label Design</li> </ul> <p><b>10:30 – 11:00</b></p> <ul style="list-style-type: none"> <li>- Leave for Islamic Complex</li> </ul> <p><b>11:30 – 12:00</b></p> <ul style="list-style-type: none"> <li>- Journal</li> <li>- Lunch</li> </ul>
<p>Thursday - 21</p>	<p><b>7- 8:00am</b></p> <ul style="list-style-type: none"> <li>- Market set-up</li> </ul> <p><b>8:00- Noon</b></p> <ul style="list-style-type: none"> <li>- Farmer’s Market ( 5 youth)</li> <li>- Visit Florida Blvd Farmer’s Market / Interview Farmers ( 15 youth )</li> <li>- Journal entry</li> <li>- Lunch provided</li> </ul>

Week 3, June 26- 28, 2007

<p>Tuesday -26</p>	<p><b>7- 9am @ LSU Hill Farm</b></p> <ul style="list-style-type: none"> <li>- Horticulture Lesson</li> <li>- Dr. Motsenbocker shares his Pepper Power Point</li> <li>- Show kids where there peppers are growing</li> </ul> <p><b>9:30- 12:00</b></p> <ul style="list-style-type: none"> <li>- Cooking lab with Dr Judy Myhand @ LSU - <b>EGGS</b></li> <li>- Journal entry</li> <li>- Lunch provided</li> </ul>
<p>Wednesday -27</p>	<p><b>7:00- 11:30am</b></p> <ul style="list-style-type: none"> <li>- Zachary Farm Visit – Mr. Yassin &amp; his cousin, Mr. Herbert</li> <li>- Tour of organic chicken production</li> <li>- Harvest tomatoes</li> </ul> <p><b>11:30 – 12:00</b></p> <ul style="list-style-type: none"> <li>- Lunch</li> <li>- Journal</li> </ul> <p><b>4:00</b></p> <ul style="list-style-type: none"> <li>- City Council Award Ceremony with the Mayor</li> </ul>
<p>Thursday -28</p>	<p><b>7- 8:00am</b></p> <ul style="list-style-type: none"> <li>- Market set-up</li> </ul> <p><b>8:00- Noon</b></p> <ul style="list-style-type: none"> <li>- Washington St. Farmer’s Market ( 5 youth)</li> <li>- Hill Farm Horticulture Lesson ( 15 youth )</li> <li>Station 1 – propagating blueberries</li> <li>Station 2 – transplanting basil, planting cayenne seed, seeded dill</li> <li>Station 3 – weeded and mulched cayenne and jalapeno peppers</li> <li>- Visit from the Advocate reporter and photographer</li> <li>- Journal entry</li> <li>- Lunch provided</li> </ul>

Week 4, July 3-5, 2007

<p>Tuesday -3</p>	<p><b>7-8:30am</b> - Leadership with Minister Sabree</p> <p><b>8:30 – 11:30</b> - Label and bottle Hot Sauce</p> <p><b>11:30 – 12:00</b> - Journal and Lunch</p>
<p>Wednesday - 4</p>	<p><b>HOLIDAY</b></p>
<p>Thursday - 5</p>	<p><b>7- 8:00am</b> - Market set-up - Hot Sauce Sale Evaluation</p> <p><b>8:00- 11:30</b> - <b>Washington St.Farmer’s Market</b> ( 5 youth )  - <b>Florida Blvd Farmer’s Market</b> ( 5 youth ) - Bring Tent, Sign, Handouts, Table, Chairs  - <b>Horticulture Lesson at Hill Farm</b> Station 1- Root Fig Trees ( 10 youth ) Station 2- Kitchen Botany</p> <p><b>11:30 - noon</b> - Journal entry - Lunch provided</p>

Week 5, July 10-12, 2007

<p>Tuesday -10</p>	<p><b>7-8am</b> - Leadership with Minister Sabree</p> <p><b>8:00 – 9:30</b> - Horticulture Lesson @ Hill Farm - Emily gives slide show of community gardens in NYC</p> <p><b>9:30 -11:30am</b> - Cooking Lab with Dr. Judy Myhand @ LSU - <b>SOUPS</b></p> <p><b>11:30- noon</b> - Journal entry - Lunch provided</p>
<p>Wednesday -11</p>	<p><b>7- 11:00 am</b> - <b>Community Garden Design Workshop @ LSU</b> School of Landscape Architecture - Led by Susan Ludwig, MLA Student</p> <p><b>11:00 – 12:00</b> - <b>Islamic Complex</b> - Lunch - Journal</p>
<p>Thursday -12</p>	<p><b>7- 8:-00am</b> - Market set-up - Hot Sauce Sale Evaluation</p> <p><b>8:00- 11:00</b> - Farmer’s Market ( 5 youth ) - Hill Farm Horticulture Lesson ( plant figs, herbs, harvest and weed peppers, make lavender herbal sachets to sell ) - Visit from LSU Ag for Film media release</p> <p><b>11:30 - noon</b> - Journal entry - Lunch provided</p>

Week 6, July 17-19, 2007

<p>Tuesday - 17</p>	<p><b>7- 8am</b> - Leadership with Minister Sabree</p> <p><b>8 – 9:00</b> - Harvest watermelons @ Burden or - Hill Farm Horticulture lesson</p> <p><b>9:30- noon</b> - Cooking lab with Dr Judy Myhand @ LSU - <b>DAIRY</b> - Journal entry - Lunch provided</p>
<p>Wednesday - 18</p>	<p><b>7- 11:30am</b> - Zachary Farm visit - Harvest Produce - Swim - Lunch</p> <p><b>11:30 – 12:00</b> - Drive back to Islamic Complex</p>
<p>Thursday - 19</p>	<p><b>7- 8:00am</b> - Market set-up</p> <p><b>8:30- Noon</b> - Farmer’s Market ( 5 youth) - Community Garden or begin bottling hot sauce ( 15 youth ) - Harvest Peppers at Hill Farm / Harvest Watermelon at Burden - Journal entry - Lunch provided</p> <p><b>5:00</b> - <b>School Board Awards Ceremony for Youth</b></p> <p><b>5:30</b> - <b>OSBR Community Meeting at McKinley Alumni Center</b> - <b>Youth will have a table with community garden drawings</b></p>

Week 7, July 24-26, 2007

<p>Tuesday -24</p>	<p><b>7- 8 am</b> - Leadership with Minister Sabree</p> <p><b>8 - 9:30</b> - Horticulture Lesson @ Hill Farm</p> <p><b>9:30- noon</b> - Cooking Lab with Dr. Judy Myhand @ LSU – <b>GROCERY STORE VISIT</b> - Journal entry - Lunch provided</p>
<p>Wednesday - 25</p>	<p><b>7am – Noon</b> - Field Trip - Farm Visit - Tabasco Plant, Avery Island</p> <p><b>1:30 - Gov. Kathleen Blanco recognizes McKinley Youth</b></p>

Thursday - 26	<b>7- 8:00am</b>	-	Market set-up
	<b>8:00 – 11:30</b>	-	Washington St. Farmer’s Market ( 5 youth)
		-	Washington St. Community Garden planting / compost pile ( 5 youth )
		-	Bottle Hot Sauce ( 5 youth )
		-	Journal entry
		-	Lunch provided

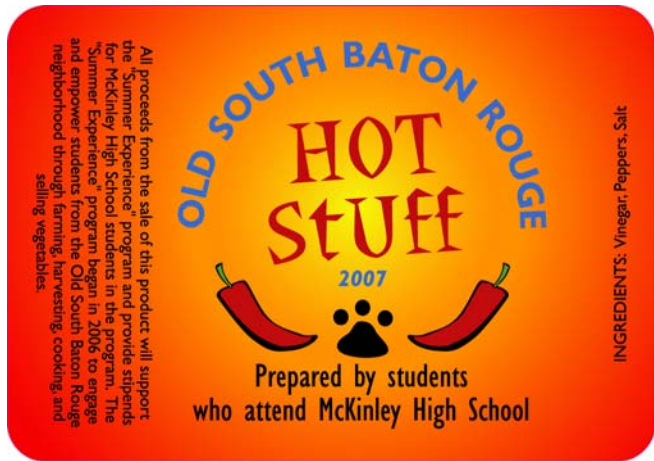
Week 8, July 31 – Aug 2, 2007

Wednesday -1	<b>7- 9am</b>	-	Leadership with Minister Sabree
	<b>9:30- 11:30am</b>	-	Make posters/ scrapbooks of accomplishments
	<b>11:30- noon</b>	-	Journal entry
		-	Lunch provided
		-	
Thursday - 2	<b>7- 8:30am</b>	-	Harvest for Farmer’s Market
	<b>8:30- noon</b>	-	Horticulture Lesson @ Hill Farm
		-	Planting in Community Garden
Friday - 3	<b>7- 11am</b>	-	Cooking lab with Dr. Myhand @ LSU – <b>TRADITIONAL FOODS</b>
	<b>11- 11:30</b>	-	Set-up for celebration
	<b>noon</b>	-	Final celebration, lunch and awards
		-	

**APPENDIX F**

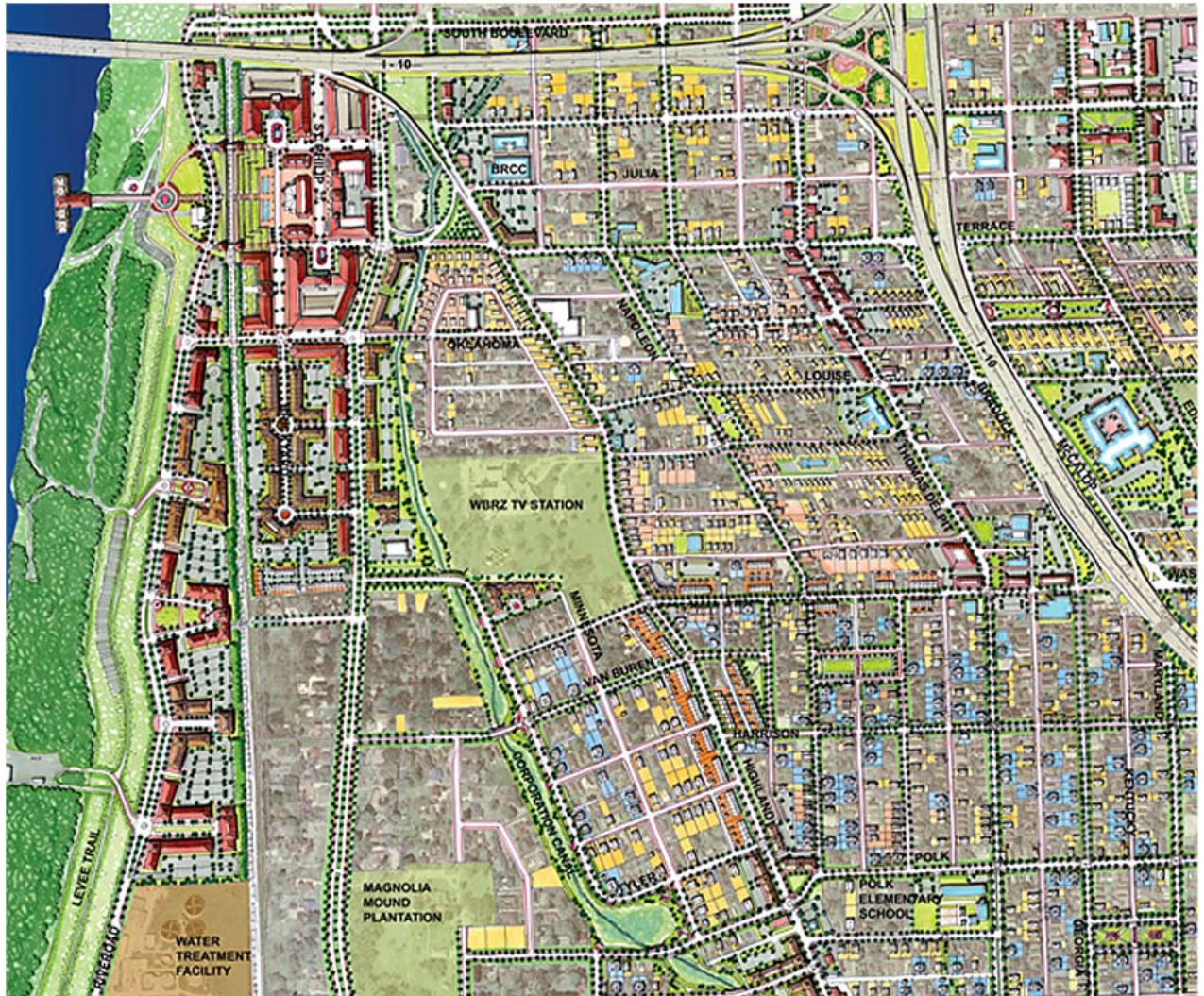
**OLD SOUTH BATON ROUGE HOT STUFF LABEL**





**APPENDIX G**

**MAP OF OLD SOUTH BATON ROUGE NEIGHBORHOOD**



**APPENDIX H**

**COOKING AND NUTRITION LESSONS AND RECIPES**

**AUTHOR: MS. JUDY MYHAND, INSTRUCTOR OF NUTRITION**

## SUPER MEAL 1

### **Sour Cream and Green Onion Corn Bread or Muffins**

It's delicious to put corn kernels in corn bread: it adds wholesome whole grain and all the benefits of whole grain and it helps to keep the bread moist and flavorful. You can add the sliced green onion if you want but it isn't necessary. This recipe will make 24 muffins.

2 cups all purpose flour  
2 cups yellow cornmeal  
8 Tablespoons sugar  
4 teaspoon baking powder  
2 teaspoon salt  
2 teaspoon baking soda  
1 teaspoon black pepper  
2 cup sour cream  
4 large egg  
8 tablespoons of melted butter, cooled (1 stick)  
3 cup corn kernels  
½ cup thinly sliced green onions

Preheat the oven to 425 degrees F. Line 24 muffin cups with paper liners or butter a 9 inch pan. Combine the first 7 ingredients and stir until moistened. DO NOT OVERMIX or they will be tough and dry. Fold in the corn and green onions. The batter will be stiff.

Divide the batter between the cups or pour the batter into the pan. Bake until golden and the tester inserted into the center of the muffin comes out clean, about 18 minutes. Cool on a rack.

### **RED BEANS or WHITE BEANS**

Ingredients:

1 Diced Onion  
½ Diced Bell Pepper  
1 clove garlic  
¼ cup olive oil  
2 Cans Red Beans or White Beans  
A small amount of smoked meat for flavoring  
8 oz of water  
Salt and pepper (season to taste)

Sauté' the onion, bell pepper, garlic in oil in bottom of pot until vegetables are soft. (about 3-4 minutes) Add the two cans beans, water and smoked meat to the pot. Stir over medium low heat. Be careful not to over heat as beans will scorch and burn on bottom. Serve over rice. Serves 4.

### **Basic Recipe for Cooking Legumes: Red, White, Black, or Pinto**

One pound of dry beans  
1 large onion, Chopped  
4 cloves of garlic, minced  
Bell pepper, jalapeno pepper or other, chopped  
½ pound of seasoning meat  
Salt  
Black pepper, red pepper

1. Wash and pick through the beans. Look for irregular beans and small rocks. Then, put the beans in a bowl and add water to two inches above the beans. Pre-soak over night or for at least 6 hours.
2. Drain
3. Combine Beans and water in a Dutch oven or other large pot with a lid
4. Cover with water
5. Bring to a boil over high heat
6. Turn the heat down to 2 or 3 and simmer until the beans are soft enough to give when pinched. May take 45 minutes.
7. While the beans are simmering, sauté the chopped vegetables in a small amount of rendered fat from the seasoning meat.
8. When the beans are soft enough to be pinched, add the seasoning and the meat.
9. Add salt to taste. Add other seasonings as you prefer.
10. Simmer until “done”. About another 45 minutes.

### **Brown Rice** (the package is wrong)

You will need  
a small, heavy pot that has a good lid  
2 cups of cold water,  
1 teaspoon of salt  
1 cup of brown rice  
a little butter or oil if you want. You can also cook the rice in stock.

Bring the rice to a boil, turn the heat to low, put on the lid and simmer for 40 minutes. Lift the lid and fluff the rice with a fork. Turn off the heat and put the lid on and allow the rice to sit for 5 minutes.

**White Rice** (the package is wrong...the rice will be soggy)

Don't wash the rice.

Everything is the same except that when you cook 1 cup of white rice, you only need 1 ½ cup of water and the rice cooks in 20 minutes.

Hints:

Don't cook less than one cup of rice

Match your rice volume to the pot volume. A little rice cooked in a big pot will not work.

Don't forget the salt. Unsalted rice doesn't taste very good.

**How to make a good tossed salad for 8 people**

2 heads of romaine or other dark green lettuce

1 ½ cups tomato: it can be whichever kind you have available

1 large cucumber, washed, and sliced (peel if skin is tough)

Other vegetables as desired: asparagus (raw or cooked), green beans, lightly steamed, blanched broccoli florets, carrot slices, avocado cubes, raw summer squash, just to name a few

**Dressing: This makes 1 cup of dressing**

1/2 cup olive oil

Juice of one lemon

1/4 cup vinegar

1 teaspoons dry mustard

1 teaspoons sugar

1 cloves of garlic, finely minced (you can strain out before adding to salad if you wish)

Salt and freshly ground pepper, to taste

Grated fresh parmesan cheese

To wash the lettuce: Fill the sink with water. Submerge the lettuce in the water and swish it around to make sure that it doesn't have any grit or other stuff on it. Lift out of the water and dry. I like to spin mine in a lettuce spinner or set it out on towels to drain and then pat it dry. Mix lemon juice, vinegar, sugar, dry mustard and minced garlic in a large bowl. Season with salt and pepper. Slowly drizzle oil into the bowl while you whisk it, vigorously. Lightly dress the vegetables except the lettuce with this dressing: tomato and cucumber and any other thing that you want to add to the salad. Just before serving, toss the lettuce with the dressing and vegetables. Top with freshly grated parmesan cheese.



**Hints:**

- How much lettuce to serve per person? 2 cups
- How much dressing needed for 2 cups of lettuce? 1 Tablespoon
- If you feel like the salad needs more dressing, add a little at a time. There is no going back!

SUPER MEAL 2

**Sweet Summer Fruit Brushetta**

24 baguette slices, cut ¼-inch thick

¼ cup butter, softened

6 tablespoons brown sugar

¼ teaspoon cinnamon

½ cup chopped peaches or nectarines

½ cup chopped plums

2 tablespoons fresh lime juice

2 tablespoons chopped walnuts

1. Lay the baguette slices in a single layer on a large baking sheet.
2. Stir together the butter, 4 tablespoons brown sugar and cinnamon and spread on one side of each baguette slice.
3. Broil for 1 to 2 minutes or until bubbly and bread is lightly browned on the edges.
4. Stir together the remaining brown sugar, fruit and lime juice in a small bowl.
5. Spoon equal amounts over the bread slices and sprinkle with walnuts.

Makes 24 Brushetta

**Fruit Salsa:**

2 cups strawberries, hulled and diced

2 large kiwi, peeled and diced

1 can mandarin orange slices, drained

Mix together in a bowl. Cover and refrigerate until ready to serve.

-----  
**Honey Orange cream cheese sauce:**

1 8 ounce package of Neufchatel cream cheese

1/2 cup freshly squeezed orange juice

3 Tablespoons honey

In a 1 quart pan, combine Neufchatel cheese, orange juice and honey. Whisk (important to use a whisk because it will be lumpy if you don't) over low heat until sauce is smooth (about 3 minutes)



**Tortillas:** You need about 8 6-inch tortillas and about 1/2 cup sugar and some cinnamon to taste.

In a shallow bowl, mix sugar and cinnamon. Working with one tortilla at a time, brush both sides lightly with water; Dip one side of each wedge in sugar mixture. Cut into about 6 wedges using a pizza cutter. Arrange wedges in a single layer, sugared sides up, on baking sheets. Bake, one sheet at a time, in a 500 degree oven until tortilla wedges are crisp and golden (watch closely but in my oven it takes about 4 minutes. It depends on the tortillas. Some burn quickly.). Remove wedges from baking sheets and let cool slightly on racks.

### **Everyone's Muffins**

Some people cannot eat eggs or milk because of allergies and some choose not to eat them because they do not want to eat any foods from animals (they are called Vegan). These great muffins are for those people; others may like them, too.

Ingredients:

1 ½ cups warm water

1 package of yeast

2 Tablespoons brown sugar

1 ½ teaspoon salt

1 ¾ cups of whole wheat flour

2 Tablespoons oil

1 ½ cup rolled oats

2 pinches of nutmeg

1. Grease two muffin tins (makes 12 muffins)
2. Dissolve the yeast in the water in a large bowl.
3. Add the sugar. Let it sit for 5 minutes until it gets foamy.
4. Stir in the flour, the salt and oil. Beat well with a wooden spoon.
5. Add the oats and beat well with a wooden spoon.
6. Cover the bowl with plastic wrap and set in a warm place for one hour.
7. Stir down the batter and spoon it into the greased muffin tins (2/3 full). Let the muffins rise again.
8. while the muffins are rising, preheat the oven to 400 degrees F
9. Bake about 20 minutes. Makes 12 large muffins.

### **Smothered Cabbage**

½ head of cabbage, cored and chopped

1 large onion, sliced

1 green pepper, chopped

1 or 2 fresh jalapeno pepper, chopped  
Flavorful oil or meat for seasoning (like bacon, tasso, or ham, finely chopped)

Prepare vegetables. Heat oil in a large frying pan or dutch oven until it's shimmering. Add onions, green pepper and jalapeno and cook until soft and onions are slightly caramelized. Add cabbage (it will seem like a lot but you will cook it down). Season with meat, salt and pepper. Cook until it's the way you like it: Crisp tender to soft are all good.

### **Bell Pepper and Cheddar Frittata**

1 white potato, peeled, cut into 1/4-inch cubes  
2 1/2 Tablespoons olive oil  
1 large red bell pepper, chopped  
1 large onion, coarsely chopped  
4 garlic cloves, finely chopped  
3 tablespoons chopped fresh oregano  
8 large eggs  
1 teaspoon salt  
3/4 teaspoon coarsely ground pepper  
1 cup grated sharp cheddar cheese

Cook potato in saucepan of boiling salted water until tender, about 8 minutes. Drain. Heat oil in large ovenproof skillet over medium-high heat. Add pepper and onion; sauté until tender, about 6 minutes. Add potato, garlic, and oregano; sauté 1 minute.

Whisk eggs, salt, and pepper in medium bowl. Pour over vegetables in skillet. Reduce heat to medium-low, cover skillet, and cook until eggs are set around edges, about 8 minutes. Sprinkle with cheese.

Meanwhile, preheat broiler. Place skillet in broiler 4 to 5 inches from heat source and cook until cheese is melted and just browned, about 2 minutes. Let frittata stand 1 minute.

Cut into 8 wedges.

Makes 4 servings.

Bon Appétit

April 2003

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### **Corn, Green Onion (Scallion) and Potato Frittata**

1 bunch green onions, white and green parts sliced separately  
2 garlic cloves, minced  
3 tablespoons olive oil (this oil will be divided into 2 Tablespoons and 1 Tablespoon)  
1 large russet (baking) potato, peeled and cut into 1/4-inch dice  
2 cups corn kernels (10 oz), thawed if frozen  
4 large eggs  
4 oz mozzarella, coarsely grated

1. Cook white part of scallions and garlic in 2 tablespoons oil in a 10-inch nonstick skillet over moderate heat, stirring, until softened, about 2 minutes.
2. Add potato and cook over moderately low heat, stirring, until tender, about 10 minutes.
3. Add corn. Salt and pepper to taste
4. Cook, stirring, about 1 minute for thawed corn or 3 minutes for fresh corn.
5. Preheat broiler.
6. In a large bowl, whisk together eggs and mozzarella. Stir in potato mixture and scallion greens.
7. Heat remaining tablespoon oil in cleaned skillet over moderate heat until hot but not smoking.
8. Cook frittata without stirring, shaking skillet once or twice to loosen frittata, until underside is golden but top is still wet, about 6 minutes. Remove from heat.
9. If skillet handle is not ovenproof, wrap handle in a double layer of foil. Broil frittata about 3 inches from heat until top is just set and golden, about 2 minutes. Slide onto a plate and cool to warm or room temperature

Makes 4 servings.

Gourmet  
August 2000

### **Tomato, Garlic and Potato Frittata**

Six whole large eggs  
 2 large egg whites  
 1/2 cup finely grated parmesan (2 oz)  
 1/3 cup thinly sliced fresh basil  
 3/4 teaspoon salt  
 1/2 teaspoon black pepper  
 4 garlic cloves, thinly sliced  
 3 tablespoons olive oil  
 1/2 lb boiling potatoes, peeled and cut into 1/4-inch dice  
 2 cups chopped tomato

1. Mix eggs, 1/4 cup parmesan and basil and together in a bowl. Whisk until combined.
2. Cook garlic in 1 Tablespoon oil in a 10-inch heavy skillet (preferably nonstick and ovenproof) over moderate heat, stirring, until golden, about 1 minute. Transfer garlic with a slotted spoon to a bowl.
3. Add potatoes to skillet and sauté over moderately high heat, stirring, until just tender, about 6 minutes. Transfer with a slotted spoon to bowl with garlic.
4. Add 1 Tablespoon oil and tomatoes to skillet and cook over moderately high heat, stirring, until tomatoes brown, about 4 minutes.

5. Add remaining tablespoon oil and potatoes with garlic to skillet, spreading evenly, and sprinkle with remaining 1/4 teaspoon salt and 1/4 teaspoon pepper.
  6. Pour egg mixture over the vegetables and cook over moderately high heat, lifting up cooked egg around edges to let uncooked egg flow underneath, 3 minutes. Reduce heat to moderate and cook, covered, 5 minutes more (center will be moist).
  7. Remove lid and broil frittata 5 to 7 inches from heat until set, about 5 minutes.
  8. Sprinkle top evenly with remaining 1/4 cup parmesan, then broil until cheese melts and frittata is golden brown, 2 to 3 minutes more.
  9. Slide onto a platter and cut into 8 wedges.
- If your skillet isn't ovenproof, wrap handle with heavy-duty foil (or a double layer of regular foil) before broiling.

Gourmet

May 2001

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### **SAUSAGE AND GRITS FRITTATA**

Can be prepared in 45 minutes or less.

3/4 cup water  
3 tablespoons quick-cooking grits  
1/4 pound smoked kielbasa, sliced thin  
1/2 cup finely chopped red bell pepper  
1 1/2 tablespoons olive oil  
4 large eggs  
4 scallions, sliced thin  
1/2 cup finely grated sharp Cheddar  
  
cayenne to taste

In a small heavy saucepan bring the water to a boil, add the grits and salt to taste, and cook the grits, covered, over low heat, stirring occasionally, for 5 minutes, or until they are very thick. Spoon the grits onto a sheet of plastic wrap, using the plastic wrap form them into a 1/2-inch-thick rectangle, and chill them, wrapped in the plastic wrap, for 15 minutes. Cut the grits into 1/2-inch dice.

In a 9-inch non-stick skillet cook the kielbasa and the bell pepper in 1 tablespoon of the oil over moderate heat, stirring, for 5 minutes. In a bowl whisk together the eggs, the scallions, the Cheddar, the cayenne, and salt to taste and stir in the kielbasa mixture and the diced grits, gently. In the skillet heat the remaining 1/2 tablespoon oil over moderate

heat until it is hot but not smoking, pour in the egg mixture, and cook the frittata, without stirring, for 8 minutes, or until the edge is set but the center is still soft. If the skillet handle is plastic, wrap it in a double thickness of foil. Broil the frittata under a preheated broiler about 4 inches from the heat for 2 to 3 minutes, or until it is golden, and let it cool in the skillet for 5 minutes. Run a knife around the edge, slide the frittata onto a serving plate, and cut it into wedges. Serve the frittata warm or at room temperature.

Serves 2.  
Gourmet

### **PEACH, STRAWBERRY, AND BANANA BRUSCHETTA**

sixteen 1/2-inch-thick slices crusty Italian or French bread  
2 tablespoons melted unsalted butter  
1 1/2 tablespoons sugar  
1 1/2 tablespoons cinnamon, or to taste  
1 peach, peeled, pitted, and cut into fine dice  
1/2 banana, cut into fine dice  
8 large strawberries, cut into fine dice  
3 to 4 tablespoons plain yogurt  
honey for drizzling

Preheat oven to 375°F.

Arrange bread slices in one layer in a shallow baking pan and bake in middle of oven until golden, about 10 minutes. Brush toasts with butter on one side. Toasts may be made 1 week ahead and kept in an airtight container.

In a small bowl stir together 1 tablespoon sugar and cinnamon and sprinkle evenly over buttered side of each toast. Broil toast about 5 inches from heat under preheated broiler 30 seconds, or until tops are bubbling, and cool.

In a bowl stir together fruit and remaining 1/2 tablespoon sugar and mound about 1 tablespoon on each toast. Top each toast with about 1 teaspoon yogurt and drizzle with honey.

Makes 16 bruschetta.

Gourmet  
August 1994

### **Potato-crust Quiche with Smoked Cheddar**

1 1/4 pounds russet potatoes, peeled, sliced into 1/4-inch rounds  
1 tablespoon olive oil  
1 cup chopped onion  
1 cup chopped red bell pepper  
1/2 teaspoon dried thyme  
8 large eggs  
1/4 teaspoon salt

1/4 teaspoon ground black pepper  
4 ounces smoked cheddar cheese, grated (about 1 cup packed)

Preheat oven to 350°F.

1. Spray 10-inch glass pie dish with vegetable oil spray.
2. Steam potato rounds until just tender, about 6 minutes.
3. Transfer to rack and cool.
4. Line prepared pie dish with enough potato rounds to cover, overlapping slightly (reserve any remaining potatoes for another use).
5. Heat olive oil in heavy large saucepan over medium-high heat.
6. Add onion, red bell pepper, thyme, and sauté 5 minutes.
7. Whisk eggs, salt and pepper in large bowl to blend.
8. Mix in cheese.
9. Pour egg mixture over potatoes in dish.
10. Bake quiche until set in center, about 35 minutes. Cool 20 minutes. Cut into wedges. Serve warm or at room temperature.

Serves 4 to 6.

Bon Appétit

The Cook's Exchange

December 1998

Karen Stocker, Gaithersburg MD

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## SUPER MEAL 3

### **Sweet Potato and Zucchini Bread**

Yield: Makes 1 loaf

2 cups all purpose flour  
2 teaspoons ground cinnamon  
1 teaspoon baking soda  
1/4 teaspoon baking powder  
1/4 teaspoon salt  
2 cups sugar  
3/4 cup vegetable oil  
3 large eggs

1 teaspoon vanilla extract  
1 1/2 cups grated zucchini  
1 1/2 cups grated peeled sweet potato  
1 cup chopped walnuts, toasted

Preheat oven to 350°F. Butter and flour 9x5x3-inch loaf pan. Sift first 5 ingredients into medium bowl. Beat sugar, oil, eggs and vanilla to blend in large bowl. Mix in zucchini and sweet potato. Add dry ingredients and walnuts and stir well.

Transfer batter to prepared pan. Bake until tester inserted into center comes out clean, about 1 hour 20 minutes. Cool bread in pan on rack 15 minutes. Cut around bread to loosen. Turn out onto rack and cool completely. (Can be prepared 1 day ahead. Wrap in foil and let stand at room temperature.)

### **Chicken and white bean Chili**

Roasted green chilies add spice to this do-ahead dish, which happens to be a great way to use up leftover chicken.

1 pound dried small white beans  
8 fresh Anaheim chilies\* (about 1 pound)  
1/4 cup (1/2 stick) butter  
2 large onions, chopped  
1/3 cup all purpose flour  
4 cups low-salt chicken broth  
3 cups half and half  
4 cups shredded cooked chicken  
1 tablespoon chili powder  
1 tablespoon hot pepper sauce  
1 tablespoon ground cumin  
2 teaspoons salt  
1/2 teaspoon white pepper  
1 1/2 cups grated Monterey Jack cheese (about 6 ounces)  
1 cup sour cream  
Chopped fresh cilantro  
Purchased tomatillo or green chili salsa

Place beans in heavy large pot with enough cold water to cover by at least 3 inches. Let stand overnight.

Char chilies over gas flame or in broiler until blackened on all sides. Enclose in paper bag; let stand 10 minutes. Peel, seed, and chop chilies. Set aside.

Drain beans. Return to pot. Add enough cold water to pot to cover beans by 3 inches.

Simmer until beans are almost tender, stirring occasionally, about 1 hour. Drain well.

Melt butter in clean heavy large pot over medium heat. Add onions and sauté until tender, about 15 minutes. Add flour and stir 5 minutes (do not brown). Gradually whisk in chicken broth and half and half. Simmer gently until thickened, about 10 minutes. Add reserved white beans and roasted chilies, shredded chicken, and next 5 ingredients.

Simmer gently to blend flavors, about 20 minutes. (Chili can be made 1 day ahead. Chill until cold, then cover and keep chilled. Rewarm before continuing.)

Add grated cheese and sour cream to chili; stir just until chili is heated through and cheese melts (do not boil). Ladle chili into bowls and garnish with cilantro and green salsa. Serve.

- Also known as California chilies; available at Latin American markets and many supermarkets.

### **Spicy Corn and Zucchini Soup**

4 ounces lean slab bacon, cut into 1/4 –inch dice  
2 Tablespoons extra-virgin olive oil  
1 large Spanish onion, peeled, quartered and thinly sliced  
2 teaspoons finely minced jalapeno pepper  
2 Tablespoons all-purpose flour  
4 large ripe tomatoes, peeled, seeded and chopped  
4 cups Chicken Stock or bouillon  
Salt and freshly ground pepper  
1 Tablespoon minced fresh thyme  
Pinch of cayenne  
1 ½ cups cooked fresh corn (about 2 large ears)  
1 large zucchini, trimmed and finely diced  
½ cup heavy cream

Garnish: Finely minced fresh parsley or basil

- In a medium saucepan, bring water to a boil, add the bacon, and blanch for 1 to 2 minutes. Drain and dry thoroughly on paper towels. Reserve.
- In a large pot heat the oil over medium heat, add the bacon, and sauté until almost crisp. Remove with a slotted spoon to a side dish and reserve. Discard all but 2 tablespoons of fat from the pot. Add the onion and jalapeno pepper, and cook until soft but not browned, about 3-4 minutes.
- Sprinkle the flour over the onion mixture and stir with a wooden spoon until well incorporated. Add the tomatoes and stock and bring to a boil. Reduce the heat, season with salt, pepper, thyme, and a pinch of cayenne, and simmer, partially covered, for 25 to 30 minutes.
- Add the corn and zucchini and continue to simmer the soup until the zucchini is tender, about 2 or 3 minutes longer.
- Return the bacon to the pot together with the cream and heat through. Taste the soup and correct the seasoning. Serve the soup hot or at almost room temperature garnished with minced parsley or sprigs of fresh basil and crusty French bread.

### **Cole slaw**

**Dressing:**

1 cup sour cream



3-4 dashes fresh ground pepper  
4 teaspoon sugar  
1 teaspoon salt  
2 teaspoon cider vinegar

**Vegetables:**

Finely shredded green and red cabbage  
Grated carrots  
Thinly sliced apples, red or orange bell pepper

¼ teaspoon prepared mustard

Put all dressing ingredients into a 1 quart bowl and stir until well blended. Add vegetables, stir until mixed.

### **Creamy Milk Chocolate Frosting**

This frosting needs about an hour to cool. Begin making it when the cake comes out of the oven.

½ Cup heavy cream  
Pinch of salt  
1 Tbsp corn syrup  
10 ounces milk chocolate  
½ cup confectioners sugar  
8 tablespoons cold unsalted butter, cut into 8 pieces

1. Heat the cream, salt, and corn syrup in a microwave-safe measuring cup on high until simmering, about 1 minute.
2. Place the chocolate in the work bowl of a food processor fitted with the steel blade. With the machine running, gradually add the hot cream mixture through the feed tube; process one minute after the cream had been added. Stop the machine; add the confectioners sugar to the work bowl and process to combine, about 30 seconds. With the machine running, add the butter through the feed tube one piece at a time; process until incorporated and smooth, about 20 seconds longer.
3. Transfer the frosting to a medium bowl and cool at room temperature, stirring frequently, until thick and spreadable, about 1 hour.

### **OLD-FASHIONED CHICKEN NOODLE SOUP**

16 cups canned low-salt chicken broth  
1 3 1/2-pound chicken, cut into 8 pieces  
1/2 cup chopped onion  
2 carrots, peeled, thinly sliced  
2 celery stalks, sliced

2 tablespoons (1/4 stick) butter  
1 cup sliced mushrooms  
1 tablespoon fresh lemon juice  
8 ounces dried wide egg noodles  
1/2 cup finely chopped fresh parsley

Combine chicken broth and chicken in heavy large pot. Bring to boil. Reduce heat; cover partially and simmer until chicken is cooked through, about 20 minutes. Using tongs, transfer chicken to large bowl. Cool chicken and broth slightly. Discard skin and bones from chicken. Cut chicken meat into bite-size pieces and reserve. Spoon fat off top of chicken broth.

Return broth to simmer. Add onion, carrots and celery. Simmer until vegetables soften, about 8 minutes. (Can be prepared 1 day ahead. Cover chicken meat and broth separately and refrigerate. Bring broth to boil before continuing.)

Melt 2 tablespoons butter in heavy large skillet over medium-high heat. Add mushrooms and sauté until beginning to brown, about 5 minutes. Stir in lemon juice. Add mushrooms to broth; stir in noodles, parsley and reserved chicken. Simmer until noodles are tender, about 5 minutes. Season soup to taste with salt and pepper.

### **Pita without a bread maker**

1 1/8 cups warm water (110 degrees)  
3 cups all-purpose flour  
1 teaspoon salt  
1 tablespoon vegetable oil  
1 1/2 teaspoons white sugar  
1 1/2 teaspoons active dry yeast

Hydrate yeast with 1/8 cup of warm water. Add sugar. Set aside for 5 minutes.

Measure flour into medium sized bowl.

Dissolve salt in 1 cup warm water.

Combine flour and water and yeast mixture. Add oil. Mix well. Knead on a floured surface. Round up. Place in an oiled bowl to rise until doubled.

Turn dough onto a lightly floured surface. Gently roll and stretch dough into a 12 inch rope. With a sharp knife, divide dough into 8 pieces. Roll each into a smooth ball. With a rolling pin, roll each ball into a 6 to 7 inch circle. Set aside on a lightly floured countertop, cover with a towel. Let pita rise 30 minutes until slightly puffy.

Preheat oven to 500 degrees F. Place 2 or 3 pitas on a wire cake rack. Place cake rack directly on oven rack. Bake pitas 4 to 5 minutes until puffed and tops begin to brown. Remove from oven and immediately place pitas in a sealed brown paper bag or cover them with a damp kitchen towel until soft. Once pitas are softened, either cut in half or split top edge for half or whole pitas. They can be stored in a plastic bag in the refrigerator for several days or in the freezer for 1-2 months.

## **HOT ROASTED SWEET-POTATO WEDGES**

Can be prepared in 45 minutes or less.

3 medium sweet potatoes (about 1 pound total)  
2 tablespoons butter or olive oil  
Salt  
Cayenne Pepper or Black pepper

Preheat oven to 400°F.

Cut potatoes lengthwise into 3/4-inch-thick wedges. In a large shallow baking pan heat butter or oil in oven 2 minutes. Add potatoes, tossing to coat, and sprinkle salt and pepper to taste. Roast potatoes in middle of oven, gently tossing with a metal spatula halfway through roasting time, 20 minutes total, or until tender.

## **Cold Potato Salad**

6 cups peeled, diced, cooked, potatoes	8 large hard-boiled eggs, 4 chopped, 4 whole
1 medium onion, finely chopped	Salt and pepper, to taste
1 cup finely diced celery	1 ½ cup mayonnaise
1 cup chopped dill pickle	
1 cup sweet relish, drained	

Combine potatoes, onion, celery, pickles, relish, and chopped egg. Season with salt and pepper, and add mayonnaise. Chill for several hours. Just before serving, halve the remaining 4 eggs and place on salad as decoration. Dust salad with parsley and serve.

## **Corn & Shrimp Soup**

3 Tbsp butter  
3 Tbsp flour  
1 onion, chopped  
½ bell pepper, chopped  
¼ C fresh parsley, finely chopped  
3 garlic cloves, finely chopped  
1 can Rotel tomatoes, diced  
1 pound of shrimp, peeled and de-veined  
5 cups chicken broth  
1 pound bag of frozen corn  
Salt, black pepper and cayenne to taste

First make a brown roux with the butter and flour. In a small pot, simmer the onion, bell pepper and parsley in 2 cups of the chicken broth. Once the roux is brown, add the vegetable mixture to the roux and stir. Then slowly add the juice of the Rotel tomatoes, stirring well. Add the garlic. Add the tomatoes and cook a little. Add the chicken broth

slowly and bring to a simmer. Add the corn and simmer for 5 minutes, then add the shrimp and simmer for 30 minutes. Serve with hot French bread.

#### SUPER MEAL 4

##### **Boiled Okra**

8 c Water

1 lb Fresh okra; rinsed/trimmed

2 ts Salt

1/4 c Butter; (1/2 stick)

In a large saucepan, combine water, okra and salt. Bring to a boil over High heat and cook 3-4 minutes or until okra is tender. Drain, then return okra to the saucepan. Add butter and cook over Low heat until butter melts and coats okra, stirring frequently.

Serves 4-6.

##### **Oven Fried Pecan Catfish**

Yield 12 servings

4 ounces Dijon mustard (about ½ cup... We used some creole mustard, too)

3 Tablespoons milk (just to thin out the mustard and mellow it out a little. Water would work)

8 ounces of finely ground pecans

6 Catfish Fillets

Mix the mustard and milk in a shallow dish. Spread the pecans out on a piece of parchment paper.

Dip each fillet into the mustard mixture. Scrape off any excess mustard, then carefully roll the fillets in the pecans. Coat each fillet thoroughly, shaking off any excess. Place the fillets on an oiled baking sheet.

Bake at 450 degrees until the catfish flakes easily when tested with a fork, approximately 10 to 12 minutes.

## **Vanilla Ice Cream**

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3 cups heavy cream  
2/3 cups sugar  
1 teaspoon pure vanilla extract  
Seeds scraped from 1 vanilla bean

Heat the cream, sugar, vanilla, and vanilla seeds in a small saucepan only until the sugar is dissolved. Be sure the sugar is dissolved - you will no longer feel any grittiness from the sugar if you rub some cream between your fingers. Strain into a bowl, cover, and chill very well. Freeze the mixture in an ice cream freezer according to the manufacturer's directions. Spoon into a freezer container and allow to chill in the freezer for a few hours. Allow to soften before serving.

## **Eggplant Parmesan**

1 medium eggplant, cut into 1/2-inch slices  
1/4 cup flour  
1 cup whole wheat bread crumbs (make your own whole wheat bread crumbs in the blender)  
1/2 teaspoon salt  
2 egg whites, slightly beaten  
1/3 cup of grated Parmesan cheese  
Italian Tomato Sauce (see separate recipe)  
6 ounces Mozzarella cheese, sliced

1. Heat the oven to 400 F.
2. Coat a baking sheet with cooking spray or lightly brush it with olive oil.
3. Combine flour, breadcrumbs, and salt.
4. Dip the eggplant slices into beaten egg whites and then into the flour and breadcrumb mixture.
5. Place slices on the prepared baking sheet.
6. Bake for 15 minutes or until lightly brown.
7. Alternate layers of eggplant, tomato sauce, and cheeses in a greased baking dish. Reserve some of the cheese to use as the final layer.
8. Bake uncovered at 400 F for 15 minutes.

## **Italian Tomato Sauce**

1/2 cup of chopped onion  
2 Tablespoons chopped celery  
1/4 cup chopped green pepper  
1 small garlic clove, minced  
2 Tablespoons olive oil  
16 ounce can crushed tomatoes

1/3 cup tomato paste  
1 Tablespoon chopped parsley  
1/2 teaspoon salt  
1/2 teaspoon dried oregano leaves  
1/4 teaspoon pepper  
1 bay leaf

1. Sauté onions, celery, green pepper, and garlic in oil.
2. Stir in tomatoes, tomato paste, and seasonings.
3. Simmer gently uncovered for about 15 minutes. Stir occasionally.
4. Remove bay leaf.

### **Susan's Simple Rosemary Focaccia**

Makes 2 large

4 to 6 cups organic bread flour (all-purpose will work, too)  
1 teaspoon instant yeast  
1-1/2 cups water  
1/3 cup extra-virgin olive oil, plus more for drizzling on top  
1/3 cup dry white wine (or water)  
4 Tablespoons chopped fresh rosemary, divided  
2 teaspoons salt  
Few handfuls freshly grated Pecorino Romano or other hard cheese

Combine 4 cups bread flour and yeast in a large bowl. Stir in water and mix until a soft, sticky dough forms, adding a little more flour if necessary.

Cover with a damp tea towel and let rest 20 minutes.

Mix in olive oil, white wine, 2 Tablespoons rosemary, and salt. Stir in enough flour to make a soft dough. Turn dough out onto a generously floured surface and begin to knead, sprinkling with more flour as needed to keep dough from sticking to your work surface and hands. Knead for 7 to 8 minutes.

Place the dough in a straight sided plastic container with a snap on lid and let rise until doubled, about 1 to 1-1/2 hours. The ideal room/dough temperature for rising dough is about 75 degrees.

After 30 minutes, place a [baking stone](#) in the oven and heat to 450 degrees.

Scrape the dough out of the container onto a lightly floured work surface and divide it into two balls. Place the dough balls on pieces of [unbleached parchment paper](#) and flatten each one into a disk or oval about 1/2" thick. **Note:** I can fit two ovals (but not two rounds) on my rectangular baking stone at one time. If you can only bake one focaccia at

a time, set the other one in a cool place or the refrigerator while the first one bakes; or you can always cut the recipe in half.

Generously drizzle the dough with olive oil and use your fingers to spread it evenly, then dimple the dough all over with the pads of your fingers and scatter the remaining 2 Tablespoons of rosemary and the Pecorino Romano over it.

Cover focaccia with a damp tea towel or plastic wrap and let rise for about 30 minutes, or until the dough springs back slowly when you press a finger into it.

Slide the focaccia onto the hot baking stone and bake 10 minutes, then lower the temperature to 375 degrees and bake for another 15 minutes, or until the crust is golden. Cool on a wire rack 5 to 10 minutes before serving. Focaccia is best when eaten the same day it's baked, but it freezes beautifully.

### **Mint Tea**

1 ½ cup of crushed mint leaves  
24 cups of boiling water  
½ cup sugar or more to taste.

Put mint into an enamelware pot. Add the boiling water and cover tightly. Steep 3 minutes. Strain, add sugar and chill. Garnish with a sprig of fresh mint.

### **Macaroni Nut Casserole**

1 ½ cups elbow macaroni, cooked and drained  
1-cup walnuts (optional but add to nutrient value)  
4 Tablespoons butter, divided  
3 Tablespoons flour  
2 teaspoons dry mustard  
½-teaspoon salt  
1/8 teaspoon cayenne pepper  
1 ½-cup milk  
2 cup shredded cheese (cheddar or Colby jack)  
½-cup fresh whole wheat bread crumbs (make your own using the blender)

Cook macaroni in salted water according to the directions on the package. Combine macaroni and nuts in greased 9-inch square baking dish. Melt 3 tablespoons of butter in a small saucepan over low heat. Add flour, dry mustard, salt and cayenne pepper. Stir the flour mixture together with the butter until smooth. Add the milk gradually with stirring. Simmer until thickened. Add cheese and stir only to melt. Pour over macaroni and fold cheese sauce into the macaroni. Melt the remaining butter and add crumbs. Stir to mix. Sprinkle over casserole. Bake at 400 degrees for 20 minutes.

Note: you can add the nuts to the topping instead of mixing with the macaroni.



## **Preparing Fresh Vegetables**

When you prepare fresh vegetables, don't overcook them or you will lose the texture, change the color and destroy some vitamins.

### **Green Beans, also known as Snap Beans or String Beans**

Bring a pot of water to a full boil. Wash the beans. Snap off the stem end and break larger beans in to pieces. We do this so that they won't take very long to cook. Smaller beans can be cooked whole. Get some ice and put it in a bowl. Add the beans to the pot with about 1 teaspoon of salt. Keep at a full boil for 4 minutes. Drain the water and put the beans on ice. This stops the cooking at the right point: crisp tender. If you like them more tender, you can boil them up to 10 minutes.

Simple things to do with these beans:

- ◇ Marinate in a vinaigrette dressing
- ◇ Warm and add butter sauce
- ◇ Add a small amount of olive oil and freshly grated parmesan cheese.
- ◇ Warm and sprinkle with crispy bacon bits.
- ◇ Add to a pan in which you have sautéed some onions and heat through.

### **Summer squash: yellow crookneck, zucchini or patty pan**

Wash the squash well. Slice it. Steam it for 5 minutes. Season with salt and pepper.

Simple things to do with this squash:

- ◇ Add to a pan in which you've sautéed some onions in a small amount of oil and heat through. It's good with lots of black pepper.
- ◇ Cook together with tomatoes and onions. See recipe.
- ◇ Add butter

## **Tomatoes**

Eat them fresh and uncooked or just barely heated because they are an excellent source of Vitamin C. Vitamin C is destroyed when the tomatoes are heated.

Simple things to do with tomatoes

- ◇ Tomato Vinaigrette
- ◇ Stuffed Tomatoes
- ◇ Slices of tomato sprinkled with sugar
- ◇ Slices of tomato with a little mayonnaise and some fresh herbs
- ◇ Tomato and cucumber salad with some olive oil, salt and pepper. The juice of the tomato acts like the vinegar.
- ◇ Make a Pico de Gallo

### **Pico de Gallo**

- 2 large tomatoes, diced
- 1 bunch of green onions, sliced
- 2 fresh jalapeno peppers, seeded and diced
- 2 Tablespoons of olive oil
- 1 Tablespoon red wine vinegar

Wash the vegetables. Dice and slice and combine them in a large bowl. Add the oil and vinegar. Salt and pepper to taste. Eat with tortilla chips.

### **Chakchouka**

When you can get fresh garden vegetables, here is a wonderful one dish meal. Serve with some hot bread. I like it because you don't have to spend a lot of time dicing the vegetables.

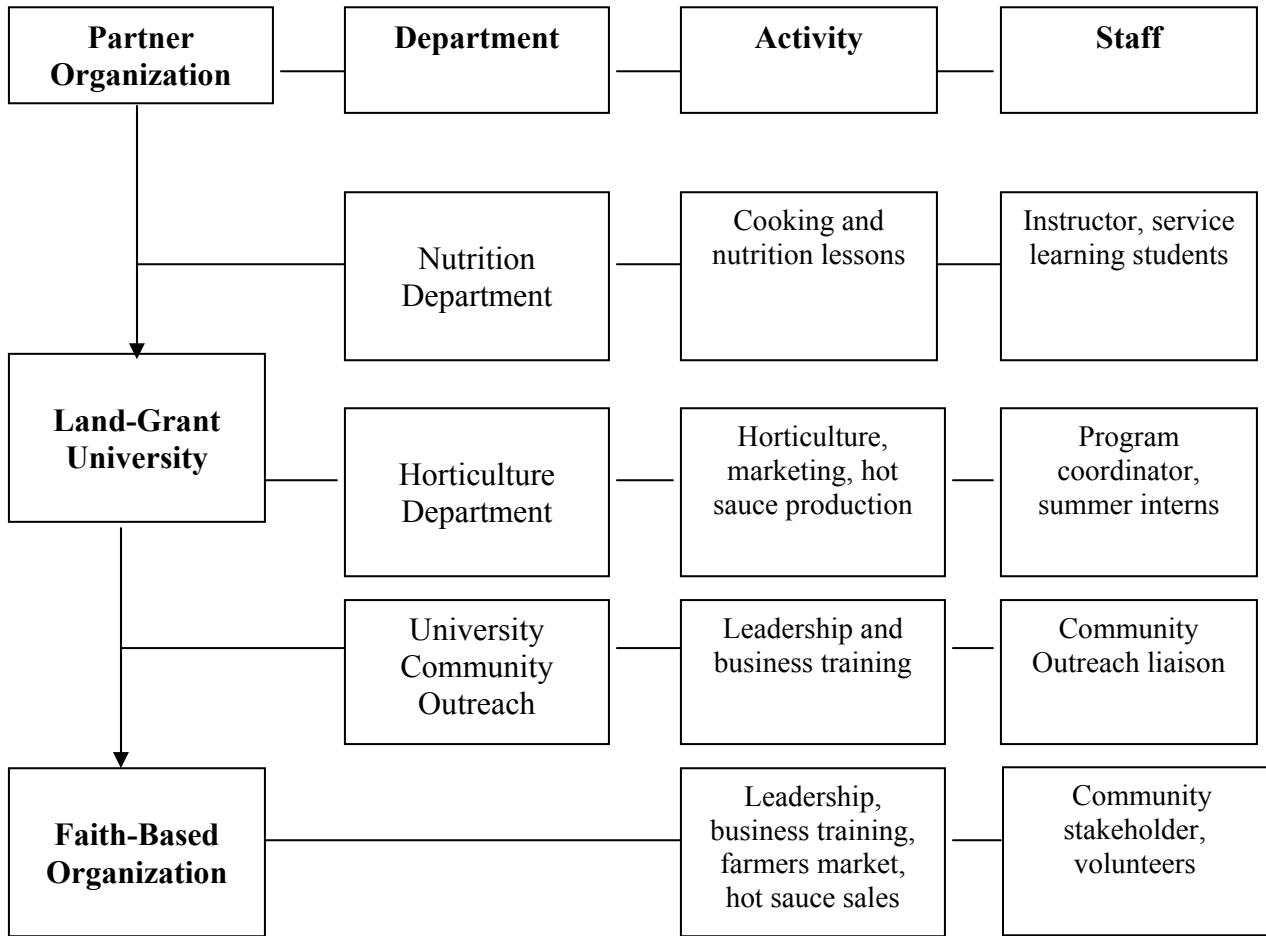
#### Serves 5

- 3 Tablespoons of olive oil
- 1 large eggplant, peeled and cut into 2 inch pieces
- 1 medium onion, sliced
- 1 green pepper, cut into large pieces
- ½ red bell pepper, cut into large pieces
- 1 zucchini, cut into large pieces
- 2 yellow squash, cut into large pieces
- 2 tomatoes, chopped (you can peel them but that's a lot of trouble)
- 2-4 cloves of garlic, minced or pressed
- Salt and freshly ground black pepper, to taste

Heat the oil in an iron pan. Add the eggplant and sauté for 4-5 minutes. Add onion and sauté until it is translucent. Add the rest of the ingredients, cover, and stir over low heat for about 25 minutes. Check the seasonings if needed. Serve hot or cold.

**APPENDIX I**

**SUMMER EXPERIENCE PROGRAM AND FUNDING CHART**



The Summer Experience program was founded by a university and community partnership.

## VITA

Emily Kathryn Neustrom was born in Lafayette, Louisiana in 1979. She received her Bachelor of General Studies with a major concentration in behavioral science and a minor concentration in environmental and sustainable resources from the University of Louisiana at Lafayette in December of 2002. In May of 2007, she began graduate studies under the direction of Dr. Carl E. Motsenbocker to pursue the degree of Master of Science in the field of horticulture, which will be awarded at the December 2009 Commencement.