

JOURNAL OF THE NACAA

ISSN 2158-9429

VOLUME 17, ISSUE 2 - DECEMBER, 2024

Editor: Linda Chalker-Scott

Hebert, J.¹, Bongarzone, P.², Hebert, L.³, Armentor, M.⁴, Gauthier, S.⁵, Miller, M.⁶, Fontenot, K.⁷

¹Full Extension Agent and Regional ANR Coordinator, LSU AgCenter, Rayne, Louisiana, 70578
 ²Assistant Extension Agent, LSU AgCenter, Franklin, Louisiana, 70538
 ³Regional 4-H Coordinator, LSU AgCenter, Rayne, Louisiana, 70578
 ⁴NCH Regional Coordinator, LSU AgCenter, Abbeville, Louisiana, 70510
 ⁵Full Extension Agent, LSU AgCenter, Breaux Bridge, Louisiana, 70517
 ⁶Associate Extension Agent, LSU AgCenter, Lafayette, Louisiana, 70501
 ⁷Professor, SW Region Director, LSU AgCenter, Rayne, Louisiana, 70578

Louisiana's Southwest Region Garden Event Improves Gardeners Knowledge and Behavior

Abstract

The 2024 Southwest Region Home Garden Event was held in Rayne, Louisiana on June 26, 2024, from five to eight in the evening. The intent of this event was to provide an educational experience for local gardeners. Structured as an open-house style event, gardeners could walk through and around the perimeter of the garden to visit various stations to learn home garden practices related to both gardening and what to do with harvested fruit and vegetable crops. Within the garden horticulture Extension agents hosted booths on the following topics: using manure, applying pesticides, installing irrigation, rationale for growing flowers in the vegetable garden (pollination), techniques for trellising plants. Three additional stations were located on the perimeter of the garden. A state specialist hosted a blueberry growing station, nutrition, and community health (NCH) agents hosted a cooking demonstration, and 4-H agents and volunteers hosted a children's activity booth focusing on growing seeds and creating plant labels for the garden space. Attendees reported learning practical gardening

techniques, with 83% of respondents planning to apply them. Additionally, 98% of attendees gained new knowledge, and 67% learned new cooking skills using fresh produce. Sixty percent of participants intended to replicate the recipes. While successful in promoting sustainable gardening, future events should communicate these types of events as being family friendly. Overall, this event fostered community engagement and encouraged the adoption of research-based gardening practices.

Keywords: behavior, community, field day, 4-H, garden, health, knowledge, nutrition, recipe, vegetable

Introduction

There are considerable benefits for individuals who grow produce in a home or community garden. Benefits related to wellness include access to a nutritious food source, physical exercise, stress alleviation, and a sense of satisfaction and accomplishment (Egerer et al., 2022). Produce harvested from a personal garden is not only more likely to be more flavorful because of the ability to harvest at peak ripeness, but gardeners also report an increase in fresh produce consumption when they garden because of a gained a sense of sense of self-reliance, emotional attachment to growing the plants, and having feelings of pride and accomplishment because of gardening (Alaimo et al., 2023). The same study indicated that most of the participants reported gaining new cooking skills for the produce harvested and from other community members.

Home gardens are a promising approach to enhance household food security and wellbeing. They are an integral part of local food systems in developing countries. Research has shown that home gardens contributes to addressing food insecurity and malnutrition. Gardens also provide additional benefits such as income opportunities for resource-poor families and ecosystem services (Galhena et al., 2013). Youth and home gardens not only improve physical health but also foster learning, self-esteem, and connections to nature. Research indicates when youth actively participate in growing fruits and vegetables, they are more likely to eat more produce and are open to tasting different types of produce (Koch et al., 2006). Gardening helps children engage their curiosity, learn resourcefulness, and gain self-confidence. A study involving middle school-aged students found that school gardening can positively impact children's vegetable consumption. It improves recognition, attitudes toward, preferences for, and willingness to taste vegetables (Ratcliffe et al., 2011). Home and community gardens can help connect people to better lifestyles and nutritional status. Because gardening provides a form of physical activity and gardens grow nutritious foods such as fruits and vegetables, research indicates that people who garden tend to have a better diet than people who do not garden (Litt et al., 2011). Gardening also increases the variety of vegetables consumed by children. Gardens not only provide access to healthy food but also contribute to overall well-being by fostering community engagement, education, and in general positively impacts mental health and overall well-being of those who participate in it (Panțiru et al., 2024).

Louisiana State University Agriculture Center (LSU AgCenter) Extension agents wanted to encourage Southwest Louisiana residents to begin gardening as a hobby. Therefore, they grew a garden and hosted an event to highlight research-based gardening practices to the public.

The Southwest Region Garden Event took place at the Louisiana State University H. Rouse Caffey Rice Research Station in Rayne, Louisiana on Wednesday June 26, 2024. This research station is one of fifteen research stations in Louisiana (LSU AgCenter, 2024) and is in Acadia parish. Acadia parish and the Southwest Region parishes with which it shares a border have a combined average of over 20% of the population living in poverty (United States Census Bureau, 2023). This garden event offered attendees the opportunity to increase food security by first allowing attendees to harvest fruit and vegetable crops during the event, second by providing answers to garden questions asked by the attendees and third by highlighting research-based best management practices for home and hobby gardeners in the local climate and soil conditions. While commercial production of fruits and vegetables in this multi-parish area is limited, gardening activities are substantial. Historically, a premium has been placed on self-sufficiency in this region (personal correspondence Agriculture and Natural Resource agent – Paul Bongarzone, Acadia Parish). The mission of the LSU AgCenter is to improve the lives of Louisiana's citizens through providing researchbased information and programming. The Southwest Region Vegetable Event was a collaboration between these organizational program areas. The horticultural content, cooking demonstrations, and youth activities were delivered to the end of serving community needs identified through an advisory process.

Objectives

The objectives of this project included:

- Planting a demonstration garden to address a lack of hands-on garden education opportunities in the Southwest region of Louisiana.
- Hosting a home garden event in the demonstration garden for novice and hobby gardeners.
- Preliminarily determining if participation in the garden event impacted gardeners' knowledge and behavior in terms of gardening activities, preparing, and consuming fresh fruit and vegetables, and involving youth in garden opportunities.

Methods

The materials and methods used to plant and manage the garden were specific to growing a garden in south Louisiana. We are writing this paper not to provide an exact prescription of how to grow a garden, but rather to list the steps one must consider when growing a demonstration garden for the purposes of hosting a garden event. The event was held in one evening. The preparation for growing the garden for that single evening extended over several months. If a reader decides to conduct a similar project in his or her state, they should consider the USDA Zone in which they work and use appropriate planting dates and recommended varieties, and fertilizer rates for their specific location and soil type.

Location

The garden was situated on the H. Rouse Caffey Rice Research Station, located at 1373 Caffey Road Rayne, LA 70578 utilizing a plot of land unsuitable for rice production due to its slope. The partnership between the research station and Extension agents not only maximized the use of the station's land but also enhanced the station's visibility and drew new visitors to the campus. The garden was planted in the native Crowley silt loam soil and located in full sun.

Garden setup

The garden covered a total area of two hundred feet by 125 feet. Fifteen rows approximately five feet wide by two hundred feet long were formed. The row width was wider than typical vegetable gardens use because participating Extension agents were limited to available equipment at the H. Rouse Caffey Rice Research Station. A fertigation system was installed, allowing for fertilization through the irrigation system. The irrigation system included a one-inch header line with lay flat drip tube with emitters on 12-inch centers extending the length of the row. One line of lay flat irrigation per row was used. Next, agents planted each row with a vegetable or flower crop. The vegetable seedlings were planted into the field on April 1, 2024. The cut flowers were planted into the field on April 29, 2024, and again on May 1, 2024. Seedlings were planted by hand. Only the okra row was planted by seed directly into the garden. Multiple varieties of each crop type were planted per row to showcase commonly grown vegetable varieties. The garden was maintained by a group of seven agricultural and natural resource agents from planting through the event.

Timeline of garden planting and management

Trays of tomato, pepper, and eggplant were seeded the second week of February 2024 and placed under grow lights at a local Extension office. Approximately two weeks later, the trays were transported to a greenhouse. Trays of squash, zucchini, cantaloupe, and watermelon were seeded the second week of March 2024 and placed in a greenhouse. All trays were monitored and watered daily and were not thinned. The irrigation system, with fertigation components, was installed at the garden site on April 1 just before planting the tomato, pepper, eggplant, squash, zucchini, and watermelon crops. Tomato, eggplant and pepper crops were staked using the Florida weave method. Cantaloupe were planted in the second week of April. Fertilizer (13-13-13) was broadcast onto the garden rows at a rate of five pounds per row. This specific amount was used because of our soil type and sample results. If considering growing a similar garden in a different location or state, the fertilizer rates would be dependent on the availability of nutrients at that location.

Trays of zinnia, celosia, and cosmos were seeded and transported to a greenhouse the third week of April. Herbicide, insecticide, and fungicide applications to the garden also occurred the third week of April, in addition to an application of liquid fertilizer (Peter's[™] 20-20-20 at a rate of 200 ppm nitrogen) being made to the trays of flowers in the greenhouse. The flowers were planted between the last week of April and first week of May. Okra was direct seeded into the garden on the second week of May. The rows of tomato, pepper, and eggplant were trellised the second week of May using the Florida Weave technique. Squash and zucchini were the first crops to be harvested, beginning the third week of May.

Pesticide applications were made, as needed, from the end of May through the period preceding the June 26th event, heeding label laws, including preharvest intervals. In this same period, fertilizer applications were made, as needed. Weekly garden duties were conducted by Extension professionals, including, but not limited to hand pulling or spraying weeds, scouting for insects, disease. Maintaining the irrigation system by repairing small breaks in lines and adjusting the irrigation system timer as needed based on precipitation levels.

Weed management

Due to the lack of a plastic mulch layer, pre-emergence herbicides, Dual[™] (Smetolachlor) and Prowl[™] (Pendimethalin) were applied for weed control using labeled rates in row middles. Post-emergence herbicides, Select[™] (Clethodim) for grass control and Sandea[™] (Halosulfuron) for sedge control were applied. Directed post-emergence herbicides LibertyTM (Glufosinate) and GramoxoneTM (Paraquat) were applied according to labeled rates and as needed. Hand tilling, hoeing, and pulling also occurred throughout the season to maintain the plots with limited weeds. Agents noted a minimal control of morning-glory, *Ipomoea sp.*, by repeated herbicide applications. This weed issue required hand pulling.

Pest and disease management

Insecticides (bifenthrin and Bacillus thuringiensis) were applied as needed for cucumber beetle and worm control using labelled rates. Copper and Azoxystrobin fungicides were used preventively at labelled rates every 2- 3 weeks. All pesticides were applied in accordance with label instructions using common garden products that any homeowner could purchase at a local garden center. The most common pests in the demonstration garden were cucumber beetles and worms. Morning glory, nutsedge and ground cherry were the most common weeds. We did not observe widespread disease problems.

Planting layout

The garden featured fifteen rows of various vegetables and flowers.

- Row 1: Six varieties of tomatoes were trellised using the Florida Weave method.
 Tomato varieties included: 'Big Boy', 'Early Resilience', 'Midnight Snack', 'Homestead', 'Cherokee Purple', and 'Bella Rosa.' Tomatoes were planted eighteen inches apart in a single line down the row.
- Row 2: Seven varieties of peppers were trellised using the Florida Weave method. Pepper varieties included 'Sweet Banana', 'Camelot', 'Emerald Giant', 'Vanguard', 'California Wonder', 'Summer Sweet', and 'Turnpike'. Peppers were planted eighteen inches apart in a single line down the row.
- Row 3: Two varieties of eggplant were trellised using the Florida Weave method.
 Eggplant varieties were 'Black Beauty' and 'Santana'. Eggplant were planted twenty-four inches apart in a single line down the row.

- Rows 4-5: Three varieties of summer squash planted in two rows. Summer squash varieties included 'Yellow Crookneck,' 'Prolific Straight neck' and 'White Patty Pan.' Squash plants were planted twenty-four inches apart in a single line down the row.
- Row 6: Two varieties of zucchini. Zucchini seed was sourced from a local co-op and were simply labeled as "yellow" and "green." Zucchini plants were planted twenty-four inches apart in a single line down the row.
- Rows 7- 9: Multiple varieties of flowers to enhance pollination and display different cut flower options. The cut flowers included zinnias, celosia, and cosmos. This garden was a test site for non-released cutflower varieties and therefore we cannot disclose the names. The cutflower names were not labeled in the field. All cutflower seedlings were planted twelve inches apart in a single line down the row.
- Rows 10 -11: One variety of cantaloupe were planted per row. Cantaloupe varieties included 'Sugar Rush' and 'Ambrosia'. Cantaloupe plants were spaced twenty-four inches apart in a single line down each row.
- Rows 12-14: Three watermelon varieties were planted. Two varieties were planted in Row 12, and one variety each in Rows 13 and 14). Watermelon varieties included 'Tender Sweet Orange', 'Crimson Sweet" and 'Sugar Baby'.
- Row 15: Three varieties of okra were planted in a single row. The okra varieties included 'Dwarf Cowhorn'. 'Piney Woods Cowhorn'. and 'Clemson Spineless'.
 Okra was directly seeded into the row on 24-inch centers.

Field event stations

Key stations were set up in and around the garden for the event. The garden event was held in the evening, 5-8 pm on Wednesday June 26, 2024, to attract families with working parents as well as retired individuals.

Registration location: A registration location was positioned between the parking area and the front entrance of the garden. This station served as the initial point of contact for visitors. Here, registration information and evaluation forms were distributed. Names of companies that financially supported the garden efforts were also displayed here.

Blueberry production location: Adjacent to the garden, a blueberry production area was established, featuring three different container-grown blueberry plants, a rabbiteye, southern highbush and huckleberry. This site allowed an Extension agent to provide visitors with essential information on basic blueberry production.

Garden stations: Within the garden, several educational stations were set up to provide visitors with targeted information on various topics. The Registration, 4-H and Nutrition and Community Health (NCH) stations were highlighted with bright purple tents to catch participants' attention. Under each tent 5-10 chairs were set up in case someone needed seating. Specific garden stations are listed below.

- *Irrigation Station:* Led by an Extension agent, this station offered insights into different aspects of irrigation practices.
- *Manure Station:* Hosted by an LSU College of Agriculture graduate student, this station focused on soil amendments highlighting benefits and precautions needed when using manure in a small garden.
- **Pollination Station:** Led by an Extension agent, this station highlighted the various flowers planted in the garden and provided information on pollination of cucurbit crops which were planted on either side of the cut flowers.
- Ask the Expert Station: Located at the opposite end of the garden, this station features multiple Extension agents available for question-and-answer sessions. Participants could also bring in specimen samples with issues for diagnosis and solutions by the experts.
- Trellis Station: Led by an Extension associate, this station provided gardeners with information on various trellis methods including the Florida Weave method.

Nutrition and Community Health (NCH) location: Adjacent to the garden, an NCH location was set up to demonstrate various healthy ways to prepare and cook produce grown in the garden. Nutrition and Community Health agents provided recipe cooking demonstrations on ratatouille, Cajun caviar, and a watermelon mint salad for participants to see and try. Most of the produce to conduct the food demonstrations was procured from the garden test plot and some was purchased. Information on preserving fruits and vegetable gardens harvest, food safety tips, home canning and freezing information of fruits and vegetables was available to participants. Participants could ask questions, try the recipes, as well as take printed copies to be able to prepare at home. A youth balance beam set was available for youth to get some physical activity in, some adults even joined in the fun the youth were having on the balance beam set. Once youth completed the balance beam, a bag with garden tools, watering can, and two packets of seeds was given to them to take home to be able to grow their own produce.

The NCH booth featured three recipes using vegetables and fruit from the garden. The dishes included a melon salad, a Cajun vegetable caviar and a ratatouille dish. Recipes can be found at the following links:

- Ratatouille Recipe: easy ratatouillepdf.pdf (Isuagcenter.com)
- Cajun Caviar: Cajun Caviar GSH Recipe Card (Isuagcenter.com)
- Watermelon Mint: Melon and Mint | MyPlate

4-H Youth Development location: Next to the NCH location, a 4-H Youth Development area was established. The 4-H Youth Development program offered two hands-on educational stations. This location featured activities for youth attendees, guided by local 4-H ambassadors, offering hands-on garden-related activities. One activity was to plant a plant person using grass seeds. Participants were given small disposable cups. Youth filled a knee-high stocking with rye grass seed and potting soil. After the stocking was filled about four inches deep it was tied into a knot to keep seed and soil in place. This looked like a small ball. Participants glued craft plastic google eyes to it, then placed the stocking into the disposable cup filled with water. The knee-high stocking acts as a wick and as the rye grass seed germinates and grows, it resembles hair on a

person. Through this activity participants learned about the basic parts and needs of plants. The other activity engaged youth in making garden markers which helped with creativity and taught the importance of organization in gardening. Both interactive activities provided useful information and supplies that youth participants could take back to their family gardens.



Figure 1. The Southwest Region Home Vegetable Garden Field Day Map.

Fundraising

Funds for the SW Region Home Vegetable Field Evening were raised through the efforts of Extension agents who visited with interested parties, sharing a common vision for the project. These agents held short, informal meetings at the businesses of potential sponsors, where they discussed the garden's mission and the positive impact it could have on the community. This personal approach helped secure the support needed to bring the event to life. Several local businesses including a retail garden center and insurance company supported the event. The statewide horticulture organization, Louisiana Society for Horticultural Research made a large donation to the garden as they were excited about engaging people in the SW Region of the state with

more horticulture related garden events. The final donor was a national seed company that provided funds to this project as the Extension agents included trial cut flowers for them.

Advertising the garden event

Approximately six weeks before the Southwest Region Home Vegetable Garden event, promotional material was formally distributed. A flyer was created for these promotional efforts and utilized on multiple social media platforms through multiple organizational accounts. The SW Region home garden event was also listed on the LSU AgCenter's webpage calendar. Extension professionals in the region shared all flyers with parish-level contact lists. Printed flyers were made available for distribution at Extension offices and regional programs in advance of the event. An Extension agent made an appearance on local television to promote the event the evening before the event was held.

Results and Discussion

Seventy-five participants (excluding all Extension agents, specialists, and LSU AgCenter staff and faculty) signed the registration sheet at the event. An additional 20-30 people did not sign the registration sheet. Those that did not sign in were couples where one spouse did not sign, or children attending the event. Of the close to ninety participants, fifty-five voluntarily submitted a survey as they left the garden event. The survey was comprised of thirteen questions. The first four questions were basic identification information asking for the respondent's name, email, phone number and parish of residence. A Louisiana parish is the equivalent of a county in any other state. The next four questions asked the respondents how they learned the field event was happening, if they would attend additional field events, and if so, what time of year and what time of day. The last five survey questions were asked to determine if the participants had a change of knowledge or behavior because of attending the home garden event. This home garden event was in Acadia parish which is in the Southwest region of Louisiana. Including Acadia, participants attended this field event from eight different parishes. The wide range of parishes indicates people in this area are willing to drive for garden information. Most heard about this event from a friend or person in the Master Gardener group or their local Extension agent. All 55 respondents indicated that yes, they would attend additional garden events. The respondents also indicated that they would prefer to attend garden events when temperatures were cooler, and in the early spring or fall. Most respondents indicated that the best times of day to attend garden events were evenings, early morning, or weekends. This question was of particular interest to hosting Extension agents as we strive to find creative ways to attract both working and retired participants to our events. This first home garden event was held from 5-8 pm on a Wednesday evening and based on responses, we will host additional home garden days in the early evening to attract younger working clientele.

Survey results showed that 54 of the 55 respondents indicated that they learned something new because of participation in this field evening. That is the equivalent of a 98% knowledge gain in participants (Table 1). Potential behavioral change occurred because of this garden field event where 46 of the 55 respondents indicated that yes, they would return home and implement a garden technique from our demo garden in their own yard (Table 1). This is the equivalent of an 83% rate of adoption of our research-based garden practices. Results established participants gained knowledge in preparing fruit and vegetable crops for consumption. Thirty-seven of the 55 respondents indicated yes they learned something new about cooking and preparing (cleaning, chopping, peeling etc.) fresh fruit and vegetable crops from the garden. This is the equivalent of a 67% knowledge gain because of the Nutrition and Community Health tent at the event. All recipes used fruit and vegetables except for honeydew, mint and avocado that were grown in the on-site demonstration garden. Produce was harvested approximately one hour before the event began. Produce was washed, chopped, and prepared under a tent next to the garden. A small generator provided power for the hot plate. Fresh produce used in the recipes included tomatoes, peppers, watermelon, eggplant, and cantaloupe.

Table 1. Survey Results from the Louisiana State University Agricultural Centers' Southwest Region Home Garden Event Held on Wednesday Evening June 26, 2024.

Survey Question	Number of people who responded				
	Left blank	No	Maybe	Yes	N/A
Did you Gain Knowledge as a Result of Participation in the Garden Field Evening?	1	0	0	54	0
Do You Plan to Implement Garden Practices Witnessed as a Result of Participation in the Garden Field Evening?	0	1	8	46	0
Did You Gain Knowledge Related to the Recipes and Cooking techniques Witnessed as Result of Participation in the Garden Field Evening?	5	11	2	37	
Do You Plan to Implement Cooking and Food Preparation Practices Witnessed as a Result of Participation in the Garden Field Evening?	7	3	10	33	2
Did Your Children Enjoy the 4-H Location with the Children's Activities?	6	0	0	14	35

n = 55 respondents

The survey results also suggest participants intend to adopt new behaviors because after participants tasted the fresh produce recipes, 33 of 55 respondents (60%) indicated that they intend to prepare the same fruit and vegetable recipes as they tasted in the garden. Nutrition and Community Health Extension agents not only taught how to prepare the recipes, but also sent participants home with recipes cards and fresh produce shopping bags. An additional ten respondents said they might go home and prepare the recipes as they had tasted. This indicates that the garden field evening experience influenced cooking and food preparation behavior of participants.

When asked, "Did your children enjoy the 4-H booth activities?" 14 of 55 respondents said yes. An additional 35 respondents answered this question as not applicable to them. We assume those did not bring children to this event. Children that came to the garden event had a great time. The responses to this question led us to believe we need to modify our marketing techniques, not activities as none of the respondents indicated that their children did not enjoy the activities.

Conclusion

Overall, the first SW Region Garden Event was well worth the efforts of the participating Extension agents. Based on attendance of approximately ninety people and the results of our survey we will continue to host similar events in the SW Region. However, we anticipate adjusting and offer those below if any Extension agents in other states would like to use the model we have outlined in this paper.

- 1. Use plastic mulch in the garden for better weed suppression.
- 2. Good regional representation among attendees was observed. However, we will make a more targeted parish-level promotional effort which may yield increased attendance.
- 3. Keep the same recipes that demonstrated at the event since the evaluations indicated participants enjoyed the recipes but add new ones each year.
- 4. Having more specific food preservation information on the crops grown would have enhanced the NCH booth along with some hands-on practices.
- 5. Ensuring adequate advertising would ensure more attendance at the event or better weather conditions as it rained just before our event started but not during the event. Also do a better job promoting garden events as true family outings with activities for all ages.

Acknowledgements

We extend our sincere thanks to local businesses: Lastrapes Garden Center, C.J. Prevost Insurance Agency and Anthony's Feed and Farm Supply for their generous support of the SW Region Home Vegetable Field Evening. We also appreciate the H. Rouse Caffey Rice Research Station and staff for their partnership and support in making this project a success. Additionally, we would like to thank the Louisiana Society for Horticultural Research for their generous funding which enabled us to purchase supplies for this garden. And lastly, we extend thanks to Johnny's Selected Seeds Company for their support as a cooperating trial site.

Literature Cited

Alaimo, K., A.W. Beavers, E. Coringrato, K. Lacy, W. Ma, T.G. Hurley, and J.R. Hebert. 2023. Community gardening increases vegetable intake and seasonal eating from baseline to harvest: results from a mixed methods randomized controlled trial. *Current Developments in Nutrition* 7(5):100077.

Egerer, M., B. Lin, J. Kingsley, P. Marsh, L. Diekmann, and A. Ossola. 2022. Gardening can relieve human stress and boost nature connection during the COVID-19 pandemic. *Urban Forestry and Urban Greening* 68:127483. doi: 10.1016/j.ufug.2022.127483. Accessed on August 29, 2024. <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8767951/</u>

Galhena, D.H., R. Freed, and K.M. Maredia. 2013. Home gardens: a promising approach to enhance household food security and wellbeing. *Agriculture and Food Security* 2(1): 8.

Koch, S., T.M. Waliczek, and J.M. Zajicek. 2006. The effect of a summer garden program on the nutritional knowledge, attitudes, and behaviors of children. *HortTechnology* 16(4): 620-624.

Litt, J.S., M.J. Soobader, M.S. Turbin, J.W. Hale, M. Buchenau, and J.A. Marshall. 2011. The influence of social involvement, neighborhood aesthetics, and community garden participation on fruit and vegetable consumption. *American Journal of Public Health* 101(8): 1466–1473. <u>https://doi.org/10.2105/AJPH.2010.300111</u>

LSU AgCenter (Louisiana State University Agriculture Research Center). 2024. https://www.lsuagcenter.com/portals/our_offices/Research_Stations#:~:text=At%20the% 20LSU%20AgCenter%2C%20research%20is,conducted%20at%2015%20research%20 stations%20across%20Louisiana.ns.

Muzaffar, H., E. Guenther, O. Bosse, and H. Nil-Aponsah. 2023. Effectiveness of gardening-only, cooking-only, and combined cooking and gardening programs in rlementary schools to improve fruit and vegetable intake: a systematic review. *Nutrition* 15: 3008.

Panțiru, I., A. Ronaldson, N. Sima, A. Dregan, and R. Sima. 2024. The impact of gardening on well-being, mental health, and quality of life: an umbrella review and metaanalysis. *Systematic Reviews* 13(45). https://doi.org/10.1186/s13643-024-02457-9

Ratcliffe, M.M., K. Merrigan, B. Rogers, and J. Goldberg. 2011. The effects of school garden experiences on middle school-aged students' knowledge, attitudes, and behaviors associated with vegetable consumption. *Health Promotion Practice* 12(1): 36-43.

United States Census Bureau. 2023. Persons in poverty, percent. Accessed on August 29, 2024.

https://www.census.gov/quickfacts/fact/table/jeffersondavisparishlouisiana,vermilionparishlouisiana,lafayetteparishlouisiana,acadiaparishlouisiana,LA,US/IPE120222

United States Department of Agriculture Economic Research Service. 2023. Annual percent changes in selected Consumer Price Indexes 1974 through 2023. Accessed on August 30, 2024. <u>https://www.ers.usda.gov/data-products/food-price-outlook/</u>