



Dr. Akotsen-Mensah (left) visited Dr. Jonathan Egilla's (right) greenhouse to learn more about hydroponic and aquaponic systems for production of vegetables at Carver Farm.

Action for Food Security and Sustainability in the Food Deserts of Jefferson City

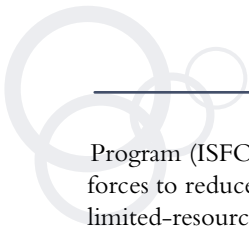
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In spring 2020, the world faced unprecedented challenges with the COVID-19 pandemic. Not only did the pandemic disrupt the supply chain throughout the United States, but it also decreased access to healthy foods for everyone, especially those already struggling with food insecurity. As devastating as the pandemic has been, it also has brought about opportunities for innovation. COVID-19 brought a surge in the demand for home, community, and urban gardening all over the country. This was a response by people anticipating

continued food shortages as each new COVID-19 variant swept the country. At that time, the Dean of the Lincoln University's College of Agriculture, Environmental and Human Sciences (LUCAEHS), Dr. Majed El-Dweik, held discussions with several individuals at the Missouri Department of Social Services (DSS) to identify ways in which Lincoln University can provide assistance in the predicted shortfall in food production and distribution. After several meetings, it was agreed that Lincoln University, through its Innovative Small Farmers' Outreach



Program (ISFOP) and the Human Nutrition and Health Program, would join forces to reduce food insecurity in Jefferson City. The focus of the project was on limited-resource community members who live and work in Jefferson City—also an Environmental Protection Agency (EPA) Opportunity Zone. An Opportunity Zone is a community that has been nominated by a governor and designated by the Treasury Secretary to receive strategic planning for the use of public and private capital and implementing their plans for economic growth and environmental protection. This was consistent with the mission of Lincoln University Cooperative Extension (LUCE). These meetings and discussions brought about what is now known as the AFSESUM project.

AFSESUM is an acronym for “Action for Food SEcurity and SUstainability in Missouri.” This project was initiated with the objective of providing locally grown vegetables to communities in Jefferson City. The ultimate goal of the project was to educate the community on how to grow their own vegetables, the importance of nutrition in immune health and food resource management. The Human Nutrition and Health Program offered nutritional education to the community by developing recipes and teaching cooking methods for different vegetables. Specifically, the project planted commonly consumed vegetables and distributed the harvested produce to community food pantries in the Jefferson City area.

Our Approach and Methods: With an initial grant of about \$500 from DSS and labor provided by ISFOP and LUCEN through LUCAEHS, the project cultivated several vegetables in 2020 and 2021. The program currently has vegetables growing in the field for distribution in the summer of 2022. The ISFOP staff from the LUCE central campus in Jefferson City planted approximately 1200 vegetable seedlings in 2021 at the Lincoln University Carver Farm and have planted approximately 1600 seedlings for the 2022 harvest. The vegetables growing for AFSESUM 2022 include tomatoes, pepper, okra, eggplants, zucchini, and sweet potatoes. These vegetables were selected based on the needs of the community, based on feedback and waste tracking from the last two years. An important criterion used in growing these vegetables is the use of integrated pest management (IPM) and good agricultural practices (GAPS). Some of the IPM practices include farmscaping and insect monitoring using visual sampling and baited traps. Farmscaping is a practice where flowering plants such as buckwheat and sunflower are grown around crops to attract beneficial insects to control destructive insects. By using these approaches, no insecticide was applied. The harvested vegetables were of good quality and reached



Top photo: Extension Associate, Lucy Atidoh, with harvested okra ready for distribution.

Second photo: Buckwheat and sunflower used as farmscaping on a plot at Carver Farm, 2020.

Third photo: Students of Boys & Girls Club in Jefferson City, MO, excited to receive harvest of vegetables from LUCE AFSESUM.

Bottom photo: Lincoln University Extension Assistant, Garrett Avery, donating produce to Catholic Charities Food Programs Coordinator, Ms. Lori Stoll, in Jefferson City, MO.



standard mature size with minimal loss to insect and rodent damage. These vegetables were distributed to organizations such as the Boys and Girls Club, Catholic Charities, Little Explorers Daycare, and Building Community Bridges, a community-based organization that supports food distribution twice a week in the food desert neighborhoods of Jefferson City, Missouri. The staff of DSS visited the AFSESUM plot in August 2020.

Project Output and Benefits: Through this project, we have been able to connect with the community through the provision of assorted vegetables, providing evidence-based nutrition education, as well as safe and sanitary food preparation and storage methods. Since one of the objectives of the project was to grow vegetables using good agricultural practices, there were no chemical pesticides or herbicides used on the AFSESUM vegetable fields. Insect pests were left for nature to control. We have established that it is possible for homeowners and urban and community gardeners to grow vegetables without pesticides. The use of farm-caping was effective in suppressing pest infestations in the field.

This project also provided experiential learning opportunities for LU students studying outside of the agriculture science field. Many of these students had no idea where their food was grown or originated or what is needed to grow and harvest the food they consume. These students now appreciate what growers experience to put food on our tables.

Top photo: Staff of DSS inspecting the AFSESUM field at Carver in August 2020.



Bottom picture: Alicia and Marie, LU nonagriculture major students who helped to plant, maintain the plot and harvest produce.

