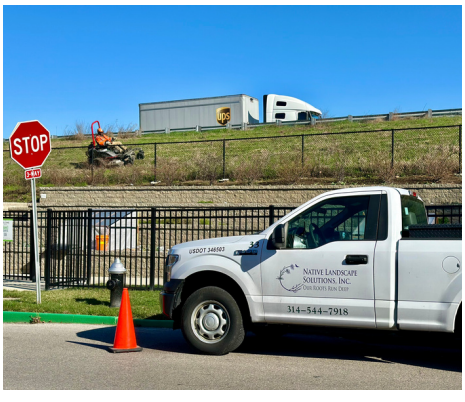
GREEN HOUSE VENTURE
GHV CAMPUS NEWS

MARCH MOWING

By Chuck Caverly Native Landscape Solutions

With all the excitement of the early spring, the GHV's native pollinator Embankment Greenway was mechanically grazed this past week, on the first day of spring. Or in other words, the entire GHV embankment was mowed to start the spring off with a clean cut to reveal the soon emerging natives. In leu of a prescribed burn or actual grazing of the slope by real live farm animals(both are not typically approved on MODOT right of way) the entire slope was mowed to seven inches in height, all of the clippings of course were left in place to aid in building the soil health for the embankment.

Next steps, watch the natives emerge and flower show to begin – here's to a great Spring!

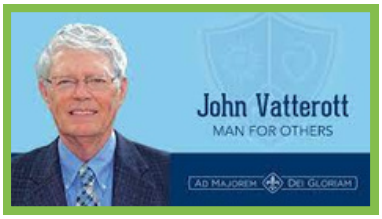


JOHN AND JOAN VATTEROTT HONORING LEGACY

John Vatterott, one of the Green House Venture's biggest supporters, passed away on October 19, 2023. As his obituary noted, his was "no ordinary life." It was "well lived and well loved."

John was many things to many people; a devoted parishioner of Christ the King, a dutiful son, loyal brother, fun-loving cousin, favorite uncle, true friend, loving father, generous grandfather, great grandfather and faithful husband to his wife, Joan Bayot Vatterott.

He and Joan had an extraordinary lifetime together of fun, adventure and generous giving to the community. John and Joan had a particular passion for innovative approaches to education. That zeal for learning led to the founding of Vatterott College, a vocational and trade school geared toward job training and employment.



He and Joan also donated to many charitable causes in support of education, especially for the underserved. Some of those causes included Access Academies, a program to propel at-risk middle school students through high school and onto college; and Boys Hope Girls Hope, a non-profit that nurtures and guides young people in need to become well-educated and career-ready men and women for others.

That same generosity and devotion to education were the catalyst for John and Joan's tremendous interest and funding for the Green House Venture. Our program would not be where it is today without the Vatterott's enthusiastic support of our mission.Their legacy will continue for many years to come in the pursuits of our students who will go on to become our scientists of the future.

In honor of his many contributions, John will be recognized at the Green House Venture Board meeting on April 17, 2024.

CLASSROOM OUTREACH PROGRAM
“SPRING” PLANTING

BY BECKY FINNEGAN, CLASSROOM OUTREACH COORDINATOR

LAST WEEK THE 5TH GRADE CLASSES FROM ST. MARGARET OF SCOTLAND FOUND THE ONLY SUNNY HOURS DURING A MARCH DAY WHEN THE MORNING GREETED US WITH SEVERE THUNDERSTORMS AND TORNADO WARNINGS SOUNDED IN THE AFTERNOON. DURING THE 2 HOURS OF BEAUTIFUL SUNSHINE AND WARMTH, STUDENTS FROM ALLIANCE SCHOOL ST. MARGARET OF SCOTLAND WALKED TO THE TERRACE GARDEN TO ENGAGE IN SOME “ALMOST-SPRING” GARDENING.

THIS WEEK WE WELCOMED THE 4TH AND 5TH GRADE STUDENTS FROM ALLIANCE SCHOOL TOWER GROVE CHRISTIAN ACADEMY FOR THEIR SPRING PLANTING SESSION. STUDENTS WERE SHUTTLED BY THE TGCA VAN TO AND FROM THE GHV TERRACE GARDENS. IT WAS A CHILLY START TO THE DAY BUT THE SUN WAS OUT AND SHINING BRIGHT!

CLASSROOM OUTREACH PROGRAM CONT.

Both schools upon their arrival at the Terrace, students were welcomed and thanked for their participation. Each student was given a high-visibility vest, a pair of gardening gloves, a silicone wristband (one of 4 different colors), and a trowel. They entered the Terrace and found their master gardener by matching their wristband color to that of the group leader. They then spread out along the Terrace, with each group responsible for multiple square-foot gardening areas which were also color coded to their bracelet.

The students learned to read the back of the seed packet to determine how to space the seeds and how deep to plant them. They also learned to use a trowel to dig a hole deep enough for a seedling. Some students investigated the cold frames, observed the worm towers, and planted inside it. Students used watering cans to water the seeds and plants, then recorded on a sheet what they had planted in each space. Lastly, they placed an official looking sign on their square indicating what was planted.

Students and teachers alike look forward to continuing to watch the plants grow. They will visit the Terrace to see it firsthand or they will view photos on the Smartboard in their classrooms. In May, they will have the opportunity to harvest and sample some of their vegetables, including a variety of lettuces, carrots, beets, bok choi, kohlrabi, broccoli, cauliflower, cabbage, beans, peas, potatoes, and more.

From seed to sample, great hands-on learning happens in a beautiful setting at the Greenhouse Venture Terrace Garden.

THE LEARNING CURVE

DISCOVERING THE DAMAGING EFFECTS OF WIND

BY DONALD STUMP, CURRICULUM DIRECTOR

With the current combination of El Niño effects and climate change, we are all seeing what changing weather patterns can do to the world around us. The headline-grabbers are, of course, the big, damaging storms such as hurricanes and tornadoes, but at the Green House Venture, we're more interested in changes in the "normal" winds because they are part of our students' daily reality, wherever they live.

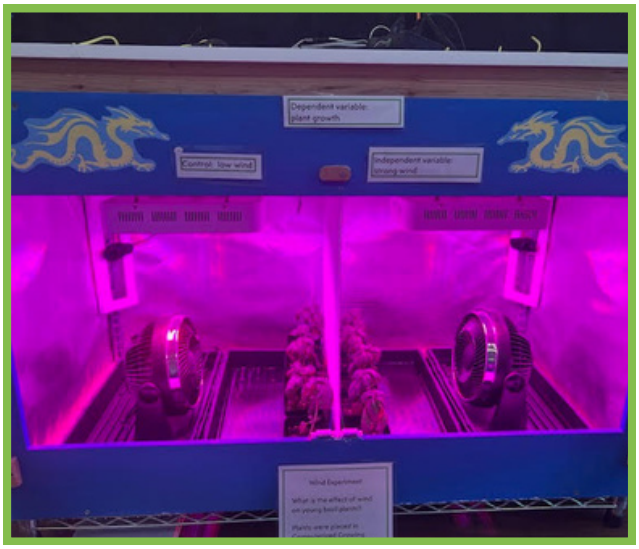
This spring, then, we decided to do an experiment to explore the effects of wind on plants when it isn't tossing semi-trailers and smashing up homes.
Since our classroom teachers are just now beginning to work routinely with the new Phase 2 Computerized Growing Chambers (CGCs)that we've been developing over the last two years (see Learning Curve, Sept. 2023), we wanted to begin with a relatively simple experiment so that we could calibrate and beta-test the equipment. That, as it turned out, involved a steeper learning curve than we expected.

We've discovered, for example, which kinds of watering tubing fail fastest and how tricky it is to maintain the right cycle of moist and dry in the growing trays.

THE LEARNING CURVE CONTINUED

We've learned how important it is to be able to vary the height of the LED lights to keep "PAR values" optimal at the crowns of the seedlings (PAR meaning Photosynthetically Accessible Radiation). And we've learned a lot about humidity when trying to simulate the extraordinarily complex systems of nature.

When the CGCs are performing as planned, though, the results are fascinating. Here's the set-up we used. Two small variable-speed fans were placed facing one another at the left and right ends of the chamber, with a divider in the middle so that one fan serves as a control (mild, infrequent wind) and the other tests the independent variable (harsh, frequent wind). Against the divider were two automatically watered trays, each containing five potted basil seedlings lined up against the divider and facing the fans. Timers and the speed switch on the fans simulated natural daily rhythms of gentle and harsh wind. The constants in the experiment are watering, lighting, and humidity-control.



The fun was provided by the students. Under the guidance of Becky Finnegan, our Classroom Outreach Coordinator, they learned what we were up to remarkably quickly. Since we've found that they are more interested and engaged when they identify with a plant that they've "adopted," each team was assigned to measure and observe a single seedling for five-weeks. At harvest time, the teams performed what amounts to a simple autopsy, studying every part of the plant, including the roots, and weighing it. Then they could analyze and graph the results for all ten plants.

THE LEARNING CURVE CONTINUED

The fifth-graders quickly formulated and recorded hypotheses about what would happen. Some said the seedlings in stronger, more frequent wind would be bent over. Others said their leaves would be damaged, and one thoughtful student said the roots nearest the fans would be stronger than those further away because they would have adapted to the strain of keeping the plant upright.

It will be fascinating to see which hypotheses are validated at harvest, and how. I know from experience that there will be lots to learn. Yes, the stems will be bent by the wind, but not in a straight line. They will form lazy Cs as their fight against the wind is constantly corrected by their strong ingrained tendency to grow upward toward the light. Yes, leaves and stems will be damaged, but in ways we might not expect. As clumps of cells are desiccated by the wind, brown and black spots will form on the leaves, which will be stunted, deformed, and “crinkly.” Gray scales will appear on the windward side of the stems, with the entire plant stunted at the center of the fan-wash but less so at the peripheries, toward the ends of the line of seedlings.

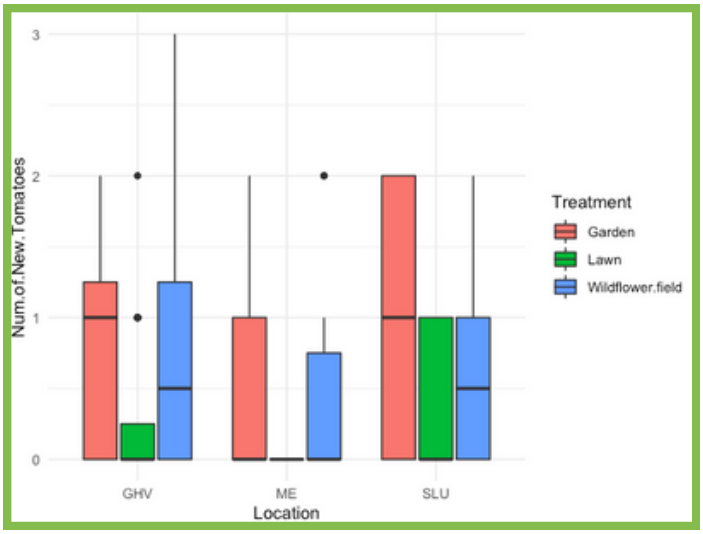
I’m excited to find out what the roots reveal. The plan is to wash them and carefully spread them out on white freezer paper in the orientation to the fan in which they originally developed. I wonder whether the thoughtful student was right, that we’ll see stronger and perhaps longer roots on the windward side. I’ll let you know in the June issue of The Learning Curve.

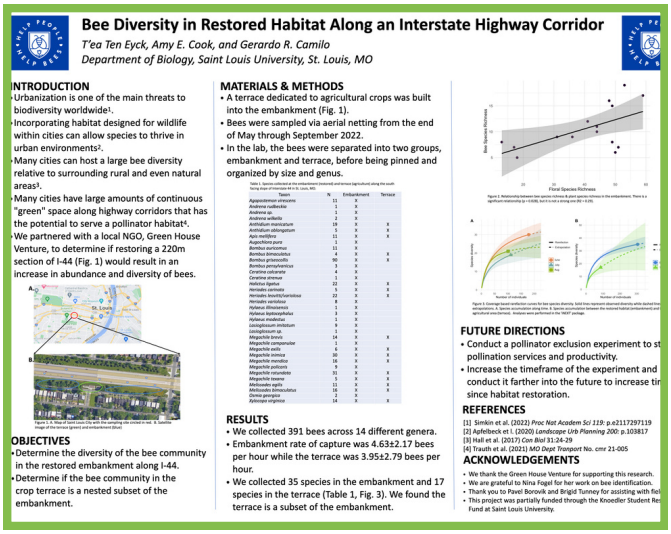
UPDATES ON GHV POLLINATOR STUDY WITH SLU BIOLOGY DEPARTMENT

By Les Landes

Following up on previous stories in GHV Campus News, the ongoing study being conducted by the Bee Lab at Saint Louis University continues to provide valuable information about pollinator behavior and their impact on plant productivity.

In an experiment with tomato plants located at three different locations, results revealed what types of growing conditions attracted the most bees, as well as the correlation between the number of bees and the number of tomatoes the plants produced.





The researchers, led by Dr. Gerardo Camillo from Saint Louis University, placed the plants at three different locations across the city: the GHV Embankment Greenway, the grounds at Saint Louis University and Mallinckrodt Elementary. They placed two tomato plants at each site, six feet apart from each other, at one of three treatments: the actual community garden, a frequently mowed lawn, and an area with wildflowers.

After observing each plant for 5 minutes, they counted the number of bumblebees that either landed or flew nearby flowers. This was done once a week – 12 weeks at GHV and SLU, and 6 weeks at Mallinckrodt Elementary.

POLLINTOR STUDY UPDATES CONTINUED

The first observations showed there were far fewer bumblebees in areas where the lawns were mowed. When Saint Louis University cut back on mowing their plot in early July, the bees started to visit the tomato plants more frequently.

SLU Biology interns study pollinators on GHV Campus.

The second important observation was that the number of tomatoes was also significantly lower in the mowed lawn areas at all three locations. Tomato plants that were placed in the community garden areas, however, had much higher productivity, almost certainly due to greater bee visitation rates.

Tomato plants were used in the Pollinators experiment

According to Dr. Camillo, the results clearly show two main points. “First, the overall abundance of bees directly correlates to the total tomatoes produced,” he noted. “Second, the abundance of other plants surrounding the tomato plants influenced the number of bees attracted to pollinate.”

Dr. Camillio plans to complete a detailed report of the entire study over the upcoming summer. That information will be provided to the Missouri Department of Transportation, which will guide further efforts to create habitats that will attract and propagate pollinators along the highway system throughout the state.

Pollinator research on GHV Emabnkment Greenway

SPOTLIGHT HSSU DR. FREDDIE WILLS
BY ARIANIE ESPERON

This semester I started my internship with The Green House Venture working with the GHV Marketing committee. During my internship I get the pleasure to interview a few important people that not only work with the Green House Venture but also at my University, Harris Stowe State University. My first interview is with Dr. Freddie Wills, a board member of the Green House Venture and Co-Chairman of the GROWING FORWARD CAMPAIGN for the GHV.

Dr. Wills educational background is rooted in the sciences, and he gained administrative experience at Washington University, a social workspace. Originally from East St. Louis, Illinois, he values education as a catalyst for opportunities. He pursued his undergraduate studies on a football scholarship at Southwest Baptist University, majoring in communications while also playing baseball. After completing his undergraduate degree, he continued his academic journey, earning a master's degree in media communications and public relations, followed by a PhD in higher education administration. Dr. Wills passion for supporting underrepresented students led him to initiate programs at HSSU aimed at increasing college retention rates and graduation rates among Black students.

These programs include research opportunities, supplemental education, and partnerships with organizations focused on supporting marginalized students. His partnership with GHV Green House Venture reflects his dedication to expanding STEM education and promoting sustainability efforts. Dr. Wills current focus is on fostering partnerships, securing resources, and creating opportunities for students to engage in STEM-related activities, such as attending events, utilizing available resources, and stepping outside their comfort zones. Additionally, he spearheaded the creation of a geospatial discipline program, designed to introduce students to spatial science and its applications in biology, sustainability, and community development. Dr. Wills ultimate goal at HSSU is to increase enrollment in STEM majors, facilitate public-private partnerships, and support faculty in delivering quality education. Despite facing challenges, Dr. Wills finds fulfillment in supporting students, building confidence, and paving pathways to success, embodying a growth mindset and fostering a supportive environment for student development.

GROWING FORWARD CAMPAIGN UPDATE

By: Dan Reynolds

Growing Forward, the campaign for the GHV Campus continues to gain interest and attention from the community. We are excited to have raised $1.8 million to construct the new education center and greenhouse. Our donors are helping us to advance science education for elementary students.

As the campaign continues to build momentum, we look forward to engaging more private foundations and companies. GHV leaders are happy to provide tours of the site, offer a demonstration of one of our growth chambers, or present to groups and organizations. We recently presented to the Rotary Club of West County, and are preparing for a presentation to an area Garden Club in May.

If you would like to arrange a meeting and/or if have an interest in participating in this campaign, please let us know.

Your energy and passion to help us advance innovative solutions for elementary science education are most welcome.
Please contact Dan Reynolds at
dreynolds@holmesredford.com or 314-308-8038 to learn more.

GHV IN OTHER NEWS

A WONDERFUL ARTICLE ON THE GREEN HOUSE VENTURE APPEARS ON PAGES 18, 19 AND 21 IN THE MARCH ISSUE OF GATEWAY GARDENER, A LOCAL PUBLICATION THAT IS DISTRIBUTED EVERY OTHER MONTH TO ABOUT 400 LOCATIONS THROUGHOUT THE ST. LOUIS METROPOLITAN AREA.

THE ESTIMATED TOTAL READERSHIP IS MORE THAN 50,000 PER ISSUE. THE PHOTO-FEATURE STORY PROVIDES AN EXCELLENT OVERVIEW OF HOW THE PROGRAM OPERATES, INCLUDING COLORFUL PICTURES OF STUDENTS INVOLVED IN AN ARRAY OF EDUCATIONAL ACTIVITIES ALONG OUR EMBANKMENT GREENWAY.

LANDSCAPE DESIGNER AND MASTER GARDENER KURT KEISTER JOINS THE GREEN HOUSE VENTURE AS A BOARD MEMBER READ STORY HERE!

GIVE STL DAY

Dear friends of the Green House Venture,

THANK YOU for your upcoming generosity!

On behalf of the schools and students participating in the Green House Venture, we want to express our deepest gratitude for your generous financial support during our Giving Tuesday campaign. With your generous contributions, we are even closer to our goal as we continue to raise funds to construct the "crown jewel" of our GHV Campus,The Education Center. This, along with the Embankment Greenway/Terrace Garden, represents the completion of the full-scale GHV Campus. This exceptional program is unique in its design to equip elementary students with the knowledge and skills in bio-science and urban agriculture that are so vital to the sustainability of our planet and the future of our world.

Make a donation....Click on the Donate button to GIVE!

Donate

Welcome to the Green House Venture Education Center

The Value of the Green House Venture to Our Neighborhood

The Green House Venture's Growing Forward Campaign

www.greenhousestl.org