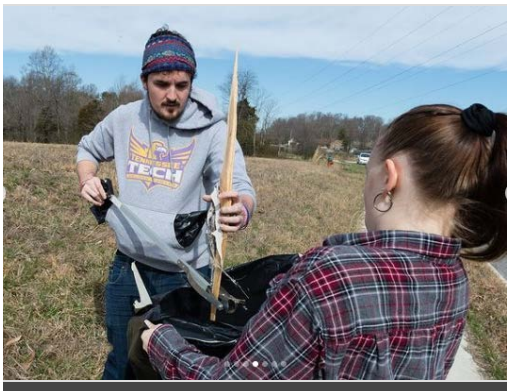
Bee Campus USA - Tennessee Technological University

Report on 2020

Pollinator Habitat Creation & Enhancement

1. Putnam Proud: The Office of Sustainability at Tennessee Tech covered the entry fee for campus groups, organizations, and groups of friends to participate in the Annual Putnam Proud Countywide Cleanup. This was a week-long event from September 19-26 in which teams remove litter throughout Putnam County. Ten groups from Tennessee Tech participated and cleaned a wide variety of locations including roadsides, sinkholes, wetlands, and local parks. During this county-wide cleanup, volunteers assisted in improving and preserving the health of natural areas such as wooded-regions, wetlands, gardens, meadows, and pollinator-friendly lawns. This event was hosted by the Keep Putnam County Beautiful Committee. 2. Tornado Cleanup – Cookeville, TN was impacted by an EF-4 tornado on the night of March 4, 2020. A state of emergency was declared for the region, and a significant amount of pollution was caused by the damage. In response to this, Tennessee Tech students and community members participated in a city-wide cleanup event. Debris were removed from meadows, gardens, and other natural, pollinator-friendly areas. This was hosted by Tennessee Tech University. 3. Bee Hive Revitalization: Students work together alongside professor, Dr. Greene, to help restore bee hives. This was hosted by Agriculture students and staff. 4. In 2020, sixteen new trees were planted on Tennessee Tech campus. 5. Native Plant Garden/Biology Greenhouse: Throughout the year of 2020, volunteers assisted in maintaining the student-designed and student-planted garden. The garden includes eight habitat types: prairie, cedar glade/bluff, high elevation acid woods/heath bald, wetlands, rocky outcrops, river/stream, roadside/pasture, mesic woodland, and edible/medicinal plants. All species are native to Tennessee. Furthermore, native plants are also grown and maintained in the TTU Greenhouse. Many plants are first maintained in the Greenhouse by students before being planted in the Native Plant Garden.

Tech Village Garden: Students are volunteering their time here to grow organic fruits and vegetables that are free for the community to harvest.

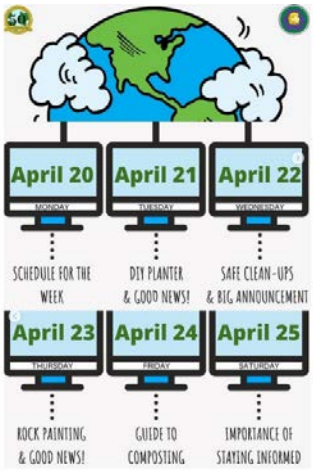


Tornado Clean Up: Early in the year, middle Tennessee experienced a devastating tornado. Many homes and habitats were either destroyed or greatly damaged. TTU students and staff gathered together to help clean up and revitalize the community.

Putnam Proud Event 2020: Members from the TN Tech Student Church Group are shown participating in the cleanup event. They are one of the many groups who volunteered to remove litter from county sinkholes, meadows, wetlands and other

Education & Outreach

(hosted by Plant Science Club) Plant Science Club Plant Sale, February 20, 2020 (hosted by our committee) Virtual Earth Week, April 20-24, 2020 (hosted by our committee)Virtual Plants Rock!, April 21, 2020 (hosted by our committee) Virtual Sustainability Day Celebration, October 27, 2020 (hosted by our committee)Pollinator Kits, October 30, 2020



Virtual Earth Week: As Earth Week was held virtually this year, we wanted to supply students and staff with ways that they could appreciate the planet from the comfort of their home. Activities we planned included a DIY planter, ways to have safe clean-ups, rock painting, a guide to composting, and the importance of staying educated. This photo was posted on our social media

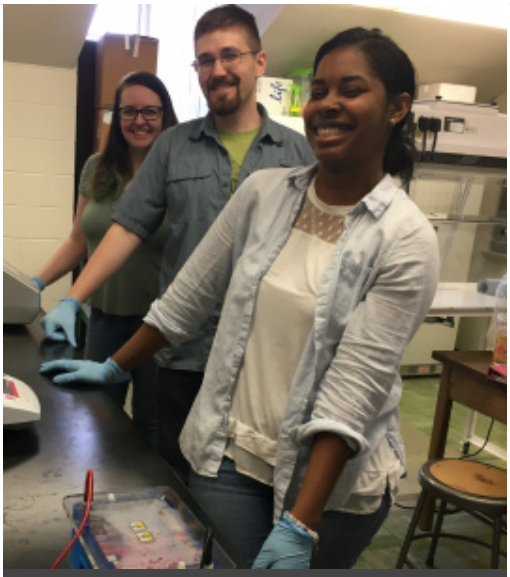
For Plants Rock day, we created a video showcasing how to easily create a DIY self-watering planter. We posted the video on our social media.

Pollinator Kits: A few of our student workers made pollinator kits complete with a coloring page, a fact sheet, a seed paper bookmark, a plant-able pencil, and crayons. We handed these packets out to students around campus.

Courses & Continuing Education

1. AGHT 3440 Floral Arrangement: Fundamentals and theory of floral design with emphasis on arrangements for the home and special occasions. 2. AGHT 3450 Dendrology: The study of trees and the identification of native species commonly found in the mid-South. Adaptability of the species to various ecological conditions of forest ecosystems and importance to wildlife will be discussed. 3. AGHT 3460 Interior Plantscaping: Identification, culture, production, and use of foliage plants in interior design; principles of design; and practices of maintenance. 4. AGHT 3470 Landscape Plant Materials: Uses and the identification of tree, shrub, and herbaceous plant species for landscapes. Ornamental characteristics and the adaptability of the species to various landscape conditions will be discussed. 5. AGHT 4420 Greenhouse Management and Crop Production: Principles of greenhouse management and environmental controls; production, timing, harvesting, and marketing of commercial floricultural crops; pest control strategies; and nutrient film technique. Development of commercial production schedule required. 6. AGHT 4940 Horticulture Topics: Special study in

an approved area of horticulture under the supervision of a member of the School of Agriculture faculty. 7. AGRN 1100 HON Plant Science: Introduction to the fundamentals of plant science as related to the ecological principles of agronomic and horticultural crops. 8. AGRN 1100 Honors Plant Science: Introduction to the fundamentals of plant science as related to the ecological principles of agronomic and horticultural crops. 9. AGRN 1110 Plant Science Laboratory: Further the discussion of plant science in the laboratory setting. 10. AGRN 3300 Organic Farming: An examination of organic crop production methods including improving the structure of soil and fertility, pest management, irrigation, season extension, vegetable and fruit crop production, harvesting, post-harvest handling and marketing techniques. This class will provide spinach kale, beets, and carrots as part of a collaborative effort to provide smoothies to the athletes on campus. 11. AGRN 4210 Soil Fertility and Fertilizers: Properties of soils in relation to plant nutrition, and fertilizer materials and their relationship to soil fertility. 12. AGRN 4940 Agronomy Topics: Special study in an approved area of agronomy under the supervision of a member of the School of Agriculture faculty. 13. BIOL 2310 General Botany: Introduction to principles of botany. 14. BIOL 3240 Field Botany: Survey of regional flora (herbs, shrubs, & trees) focusing on gymnosperms and angiosperms. Emphasis on nomenclature, structural characteristics, identification of species using a dichotomous key, and characteristics of plant families. 15. BIOL 4310 Plant Anatomy: A comparative study of the structure of vascular plants in relation to function. 16. BIOL 4340 Plant-Animal Interactions: Interactions of plants and animals in aquatic, terrestrial, and atmospheric environments at various ecological scales. (ALL CLASSES ARE PART OF FOR-CREDIT EDUCATION)



Botany Students in Molecular Lab, Students in Dr. Shawn Krosnick's botany lab are shown experimenting with the different molecules found in various plants.

Botany Students in GSM National Park, Every year, Dr. Shawn Krosnick leads a wildflower pilgrimage through the Great Smoky Mountains National Park. Students are given wildflower identification guides and spend a weekend in the mountains identifying and discovering different species of wild flowers.

Agriculture Students at Oakley Farm, Students from various agriculture classes are shown selling freshly grown vegetables at a local farmers market.

Making the World Safer for Pollinators
Bee Campus USA™
One Campus at a Time
An initiative of the Xerces Society

XERCES SOCIETY
for Invertebrate Conservation

Service-Learning

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: Cross Country Team at the Putnam Proud Event, Students from TN Tech's Cross Country team organized a clean-up on the bike trail that goes through campus.

Tornado Clean-up, Students, staff, and various members of the community remove brush and debris from natural, pollinator-friendly areas.

Educational Signage

o Permanent signage includes the Pollinator Poster, the Pollinator Mural, and the Native Plant Garden Prairie Habitat sign. Temporary signage includes the virtual flyers that we posted on our social media and the campus news page. While not every sign is displayed year round, they all are used to inform students and staff about our native pollinators and what we can do to protect them.

Native Plant Garden Prairie Habitat 2019: The Prairie signage at the Native Plant Garden informs students of the flora and fauna of Tennessee prairies. It also explains how these regions play an essential role in maintaining habitat for local pollinating birds.

Pollinator Week Virtual Flyer: Due to COVID-19, we were unable to host a pollinator centered event. Instead, we made digital signage that was shared to our social media in order to promote pollinators.

Pollinator Week Article Screenshot: This was an article posted to our campus-wide news page to inform students, faculty, and staff that we are a Bee Campus. We also supplied a link as to supply more information to what Bee Campus USA is.

Policies & Practices

Reduce pesticide sue

Integrated Pest Management Plan:

Recommended Native Plant List:

Recommended Native Plant Supplier List:

Students and staff are pictured tending to one of our gardens.

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