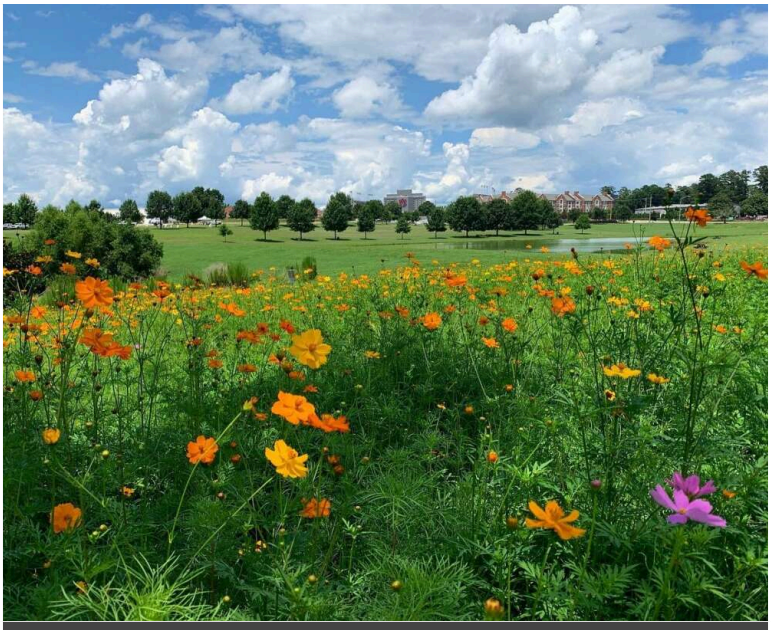
Bee Campus USA - Auburn University

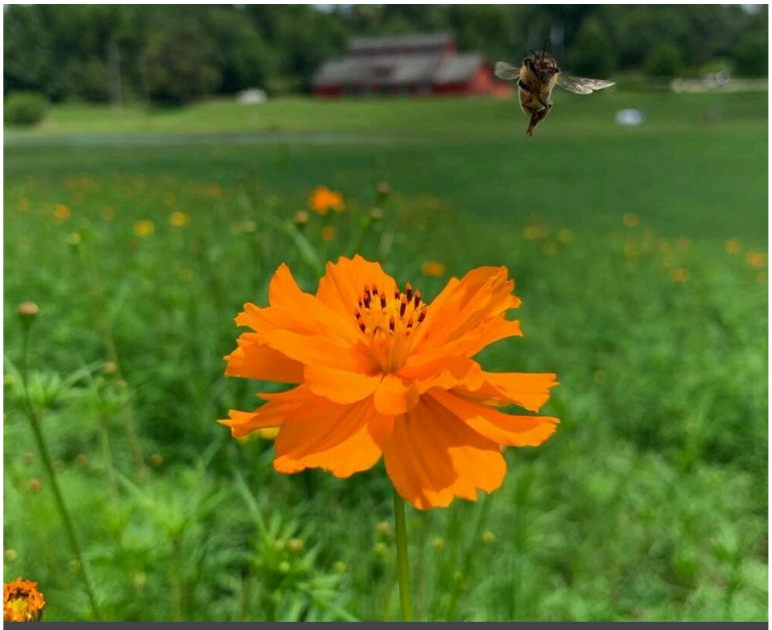
Report on 2021

Pollinator Habitat Creation & Enhancement

A variety of habitat enhancement projects took place across campus last year. Facilities Management improved over 90,000 square feet of habitat at 5 separate locations on campus, using native wildflowers planted from seed mixes to create suitable pollinator habitat. The Arboretum continually performs enhancements on its 13 acres, from spreading meadow seed to planting oaks and azaleas in new display areas. It also maintains flower gardens with milkweed, natural areas, meadows, native trees and shrub plantings, and invasive species removal. Finally, students and staff associated with the AU Community Garden and the AU Bee Lab also grew various plots of wildflowers suitable for pollinators for aesthetic and research purposes.



A campus wildflower patch in full bloom during the month of July.



Bees visit the wildflower patch planted on campus in Ag Heritage Park.

Education & Outreach

Due to pandemic restrictions in early 2021 and continuing through summer, online events were the bulk of Auburn's efforts. The 'At Home Beekeeping' webinar series coordinated by the Auburn University Bee Lab (AU Bee Lab) and the Alabama Cooperative Extension Service (Extension) is a once-a-month educational webinar that features apiculture

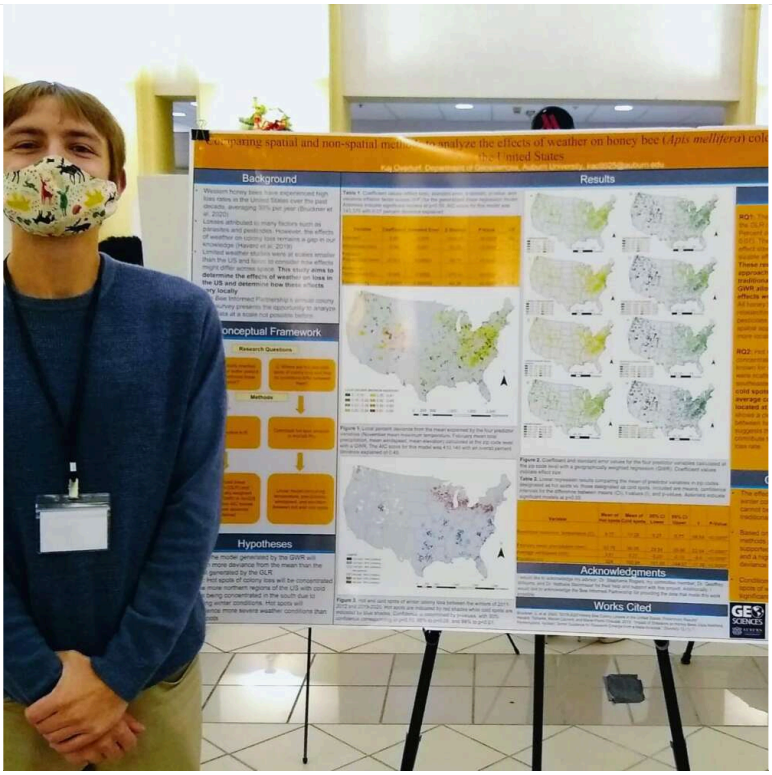
specialists from the entire southeastern set of Land Grant Universities and the USDA ARS in the region. Topics cover the full range of honeybee care and native pollinators. This webinar reaches all US States and Territories as well as international viewers. Extension specialists also had face-to-face meetings with local beekeepers associations in Clarke, Baldwin, and Washington Counties on seasonal topics such as summer nectar dearth, winter bees, and varroa mite control. In addition, AU Bee Lab researchers and technicians conducted 23 presentations at local and regional conferences/meetings and gave 8 local demonstrations. These efforts covered various topics, such as beekeeping best practices, bee colony loss, impacts of neonicotinoids, and general bee/pollinator awareness. The Donald E. Davis Arboretum (Arboretum) also contributed to outreach efforts by hosting 2 native plant sales with over 200 people in attendance and hosting tours and other special events where people can learn about pollinator-friendly plants, shrubs, and trees. Beyond these organized outreach events, the AU Bee Lab has an extensive online presence reaching over 100,000 unique users a day and growing its audience by over 1000 followers in 2021. As a part of their content, they featured a Bee of the Month, a Wildflower of the Month, and information promoting National Pollinator Week, along with their regular informational and behind-the-scenes content. Extension publishes a monthly newsletter for Alabama Beekeepers with a subscribership of 693 beekeepers that feature monthly management techniques and videos to news about beekeeping in the state. The Arboretum and the Auburn University (AU) Community Garden also maintain robust social media channels, where they have featured content on how to protect and support a range of pollinators. Finally, as a part of the Bee Lab's awareness and fundraising efforts, they have sold honey, t-shirts, and even partnered with a local brewery to create a specialty beer and a local hotel to create a signature cocktail.

The AU Bee Lab offered wildflower seed packets to attendees of the Donald E. Davis Arboretum Earth Day event.

The Collegiate Hotel hosted the AU Bee Lab for a fundraiser and educational event.

Courses & Continuing Education

The most extensive coverage of pollinators happens within the College of Agriculture. Students taking courses within the Entomology & Plant Pathology department learn about pollinators in various classes, including Bee Biology & Management and Economic Entomology. These courses cover native bees, native wildflowers, pollination, honey bees, beekeeping, and integrated pest management. In addition to these formal course offerings, the 26th Annual Alabama Beekeepers Symposium was held in February of 2021 on Zoom due to the pandemic. The entire event was viewed across several states over 2 days and the recordings were further viewed by 384 people over a period of 2 weeks post-symposium. The Annual Symposium focuses on how-to topics and features keynote speakers that represent the edge of current beekeeping research. The 26th Symposium featured 12 speakers over 8 hours of viewing time. Beyond curriculum and extension, Auburn faculty and students presented research findings at meetings and conferences throughout the year. Auburn's Bee Lab faculty and researchers also remain actively involved in the Bee Informed Partnership and the COLOSS Association.



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AU Extension and the AU Bee Lab co-hosted the virtual COLOSS Conference.

Student Kaj O. presents his research on Bee Informed Partnership data at the annual meeting of the Southeastern Division of the American Association of Geographers.

Service-Learning

Auburn students participated in various formal and informal service-learning opportunities throughout the year. Undergraduate students in the College of Agriculture's Bee Biology & Management course had multiple service-learning opportunities, including visiting with practicing apiarists, planting pollinator-friendly plots, building bee hotels and hive boxes, and learning about honey harvesting. Extracurricular opportunities for service learning stemmed primarily from student employment at the Donald E. Davis Arboretum, the AU Bee Lab, and the AU Community Garden. Students helped with habitat enhancement projects in these settings, conducted outreach education activities on campus and in the community, and assisted with Bee Lab and Community Garden activities.

Students in Bee Biology & Management showing off their bee hotels.

Student technicians and researchers on the hunt for varroa mites.

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Educational Signage

Auburn University maintains strict standards for campus signage, so no permanent signs have been installed to date. The COVID-19 pandemic limited the opportunity to engage others in-person, but some signs/informational posters we shared included: a sign to protect a native bee nesting site; a sign featuring Auburn's Bee Campus USA designation; signs on how to connect with the Auburn University Bee Lab for more information on research and outreach efforts; various signage at outreach tables of the AU Bee Lab that covers information on bees; and a variety of social media posts on pollinators from units like the AU Bee Lab, Donald E. Davis Arboretum, AU Community Garden, and the Office of Sustainability.

Signs put up to protect a large native bee nesting area outside of the AU Alumni Center.

Signs at The Collegiate Hotel let customers know about the work of AU Bees.

Policies & Practices

The university's Landscape Master Plan and Sustainable Operations Guidelines provide the overarching framework for how Auburn approaches landscape and pest management. The Integrated Pest Management (IPM) Plan operationalizes these frameworks and includes education, exclusion, sanitation, maintenance, biological and mechanical controls, and pre-approved, site-appropriate pesticides. An IPM decision at Auburn University Landscape Services consists of the following steps: 1. Identify pest species. 2. Estimate pest populations and compare to established action thresholds. 3. Select the

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appropriate management tactics based on current on-site information. 4. Assess the effectiveness of pest management. 5. Keep appropriate records. Decisions concerning whether or not pesticides should be applied in a given situation are based on a review of all available options. Efforts are made to avoid the use of pesticides by adequate pest-proofing of facilities, good sanitation practices, selection of pest-resistant plant materials, and appropriate horticultural practices. When it is determined that a pesticide must be used in order to meet pest management objectives, the least-hazardous material, adequate for the job, is chosen. The IPM Policy and Practices apply to approximately 45% of the landscape actively managed by Auburn University's Facilities Management. In addition, the Arboretum tries to limit the use of pesticides at the Arboretum. The ongoing removal of invasive plants has helped reduce the areas that require pesticides. On the sensitive collections they hand remove pests from plants and strive to keep our chemical uses to a minimum.

Integrated Pest Management Plan: AU IPM Plan.docx

Recommended Native Plant List:
aub.ie/BeeCampus
Recommended Native Plant Supplier List:
aub.ie/BeeCampus

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