

MULTISPECIES LAWNS: AN ALTERNATIVE STRATEGY FOR LAWN RESILIENCY AND ECOSYSTEM FUNCTIONS

Brooke Moffis¹, Wendy Wilber², Adam G. Dale³, J. Bryan Unruh⁴, Julia Rycyna⁵, Sandra B. Wilson⁵, and Basil Iannone⁶

¹University of Florida/IFAS, Lake County Extension, Tavares, FL USA

²University of Florida/IFAS, Center for Landscape Use Efficiency, Gainesville, FL USA

³University of Florida/IFAS, Entomology & Nematology Department, Gainesville, FL USA

⁴University of Florida/IFAS, West Florida Research and Education Center, Jay, FL USA

⁵University of Florida/IFAS, Department of Environmental Horticulture, Gainesville, FL USA

⁶University of Florida/IFAS, School of Forest, Fisheries, and Geomatics Sciences, Gainesville, FL USA

Lawns now comprise over 2% of the total US land cover, more than any other irrigated crop, with over 5 million acres in Florida alone. While providing valuable aesthetic, recreation, and erosion control benefits, lawn maintenance typically includes regular irrigation and fertilization. Fifty percent of household water usage in Florida goes to landscape irrigation. Adding flowering native species to lawns, may limit irrigation needs by increasing green coverage during dry periods. It may also provide other ecological benefits such as pollination, and arthropod biodiversity. The overall goal of this project was to quantify the resiliency, aesthetics, and functional value of multispecies lawns compared to bahiagrass, a drought-tolerant turfgrass species well-suited to Florida. In March 2020, 18 2x2 m plots were randomly assigned one of three planting levels: bahiagrass monoculture, bahiagrass-native forb mixture, or native forbs alone. Once established, plots were only irrigated three times to prevent plot loss. We quantified percent green plant coverage, pollinator visitation, and arthropod communities every 3 months, and administered surveys to green industry professionals to determine how likely they would be to adopt any of the three treatment levels in home landscapes. Throughout the study, we found 5-20% greater green coverage in plots containing forbs in the summer months, while turf only plots had 30% greater green coverage in winter months. Plots with both turf and forbs had the greatest coverage by the end of the study. Plots containing forbs experienced more pollinator visits by a greater diversity of pollinator types than turf only plots, and increased herbivore taxonomic richness and abundance; no difference in other arthropod types were found. Perception survey data are still being collected and analyzed. Adding forbs to bahiagrass lawns enhances green coverage during the growing season and may contribute to reduced irrigation needs during drier times of the year.

PRESENTER BIO: Brooke Moffis is the Commercial Horticulture Agent with UF/IFAS Extension Lake County and a PhD student with the School of Natural Resources and Environment. With 20 years of horticulture experience, she teaches residents, professionals, and municipalities Florida-Friendly Landscaping principles and provides plant diagnostic services.