Significance to the Horticulture Industry

Coastalplain Honeycombhead

Cutting Propagation and Landscape Performance of an Underutilized Southeastern Native Herb, Coastalplain Honeycombhead (*Balduina angustifolia*). G. Campbell Martínez, S.B. Wilson, C. Steppe, M. Thetford, and H.E. Pérez. *Journal of Environmental Horticulture 42(2):46–53*

Basic horticultural information is lacking for most native species, limiting their availability and use in the nursery industry. Coastalplain honeycombhead (*Balduina angustifolia*) is an herb native to the southeastern USA with high horticultural potential and limited available information. In this paper, cutting propagation and landscape use recommendations are developed for Coastalplain honeycombhead. We recommend propagation using apical stem cuttings treated with 5,000 ppm K-IBA in a peat-based mix and using plants that are locally source for use in landscaping.

Herbicide Tolerance

Determining Differential Tolerances of Newly Released vs. Traditional Cultivars of Common Ornamental Species to Preemergence Herbicides. Chengyao Yin and Chris Marble. *Journal of Environmental Horticulture 42(2):54–65*

The horticultural market has expanded significantly in recent years, highlighting the increasing demand for innovative and visually appealing cultivars. Hundreds of ornamental species are included on herbicide labels as being tolerant for application following established crop safety protocols, but the rapid introduction of a large number of new cultivars creates challenges as each new introduction cannot be tested for every herbicide option. Currently, many labels that list specific genera or species as being tolerant were approved prior to the introduction of many of these new cultivars which could be more sensitive than older more established varieties of the same genus and species. The objective of this research was to compare the tolerance of 12 different cultivars of 5 different ornamental species, including both older, more established cultivars currently included on herbicide labels and newly released cultivars which have not been subjected to extensive evaluation. Results showed that newly released cultivars of *Ligustrum sinense* ('Sunshine') and *Loropetalum chinense* ('Irodori' and 'PILC-I') showed a higher level of injury to sequential applications of commonly used preemergence herbicides compared with older cultivars of the same genus and species. This information provides growers with evidence that small-scale testing should be conducted on all new cultivars prior to large-scale applications, especially when specific cultivars are not included on the tolerant list on product labels.

Irrigation Technology

The Driving Forces and Barriers of Golf Course Superintendents' Adoption of Precision Irrigation Technology. Yang Wang, Chengyan Yue*, Eric Watkins, and Chase Straw. *Journal of Environmental Horticulture 42(2):66–74*

Based on our findings, there are several ways that turfgrass industry leaders can promote precision irrigation technology adoption on golf courses. First, researchers and manufacturers can improve the technologies so that they can meet superintendents demands better. For example, manufacturers may want to find an effective way to reduce the production costs and thus the prices of the technologies, which can make the high initial cost barrier lower. Second, according to our finding, superintendents may be unclear about precision irrigation's improvement on fertilizer use efficiency and how to use the technologies appropriately to improve the efficiency. Therefore, improving the understanding of precision irrigation's improvement on fertilizer use efficiency may be a potential feasible way to promote the adoption. Third, our findings suggest that industry associations or public agencies can generate promotion strategies, and that these promotional efforts should target decision makers, which for some superintendents is a higher level administrator. Fourth, new technologies often involve uncertainties in the outcomes, which increases the perceived risks of the technology. Information about the exact probability of success and concrete cost savings by the technology will be effective to increase superintendents' interests and willingness to pay (WTP) for the technology.

Social Media Usage

Social Media Usage Among Green Industry Firms. Melinda Knuth, Alicia Rihn, Ariana Torres, Bridget Behe, Cheryl Boyer, and Hayk Khachatryan. *Journal of Environmental Horticulture 42(2):75–84*

Since COVID-19, sales of horticultural products have increased (Behe et al. 2022). Some of this desire for plants has been attributed to social media exposure of more unique or rare plant options (Airhart 2019, Chapman 2019). Yet, little is known about the level of social media marketing that horticulture firms, whether grower, retailer or landscaper, are engaging in and on which platforms they utilize the most. Knowing how other firms are engaging with consumers can assist firms not on social media with knowing which platforms may be most suitable for themselves. Additionally, knowing how much on average the total industry spends in advertising expenditures, as well as online, social media, and website sales, can help firms set internal benchmarks as to how much they may wish to invest into marketing strategies.

Spongy Moth

Palatability and Suitability of the Ulmaceae for Spongy Moth Larval Development (Lepidoptera: Lymantriidae). Fredric Miller and George Ware. *Journal of Environmental Horticulture 42(2):85–100*

Fifty-nine *Ulmus* and six *Zelkova* taxa, varieties, and cultivars were evaluated for suitability and preference for spongy moth (*Lymantria dispar*) larvae. *Ulmus* 'Morton Stalwart'-Commendation™ and *U.* 'Morton Red Tip'-Danada Charm™, 'Frontier', 'Homestead', 'Regal', and *U. elliptica* were the most suitable for spongy moth larval development and pupation. *Ulmus gausennii*, and European elm *U. carpinifolia* were the least suitable. The remaining *Ulmus* and *Zelkova* taxa were either unsuitable (i.e. larvae failed to pupate) or were intermediate in suitability for larval development. Physical leaf characteristics (i.e. leaf thickness and toughness) differed by geographic origin with Asian and European elm leaves thicker than North American elms, and Asian elm leaves tougher than European and North American elm leaves. Overall, leaf thickness and toughness were related, but did not appear to affect larval survival, pupal fresh weight, or dry frass production. Additionally, Asian elm leaves appear to possess both glandular and straight trichomes, but their presence did not affect larval suitability. Hybridization appears to contribute to an '*U. pumila* and *U. carpinifolia* factor' which significantly affected host suitability and preference. Results reported here, suggest there is a rich pool of *Ulmus* and *Zelkova* taxa for use in tree breeding programs in order to develop resistant trees to invasive lethal insect pests such as Asian longhorned beetle (ALB) [*Anoplophora glabripennis* (Motschulsky, 1853)], emerald ash borer (EAB) (*Agrilus lanipennis* Fairmaire, 1888), and diseases including Dutch elm disease (DED) (*Ophiostoma* spp.), and elm yellows (*Candidatus Phytoplasma ulmi*) for use in landscapes and urban reforestation efforts, and for their broad hardiness range, ability to tolerate variety of soil conditions, and minimal maintenance in harsh urban environments.