

Significance to the Horticulture Industry

Azalea Lace Bug

Susceptibility of *Rhododendron* to Azalea Lace Bug, *Stephanitis pyrioides* (Scott). Ryan R. Garrison and Patrick C. Tobin. *Journal of Environmental Horticulture* 40(3):94-102

The invasive azalea lace bug, *Stephanitis pyrioides* (Scott), is one of the most damaging insect pests of the genus *Rhododendron*, especially evergreen azaleas, an especially popular subgenus of *Rhododendron*. Feeding by nymphs and adults remove chlorophyll from leaves, causing stippling on the top of the leaf, which reduces the aesthetic value of infested plants, and severe infestations can result in plant death. *Rhododendron* species exhibit a remarkable range of diversity in form, foliage and flower, and are prized worldwide in the areas that they can be grown. They are extensively hybridized in cultivation, with >28,000 cultivars listed in the International Rhododendron Registry held by the Royal Horticultural Society. Given the extensive use of *Rhododendron* species and varieties in ornamental plantings in both public and private landscapes, identifying those plants that are susceptible to azalea lace bug will allow control measures to be more effectively targeted against this invasive pest. Identifying resistant species or cultivars will assist breeding programs to develop *Rhododendron* plants that have desirable aesthetic qualities as well as resistance to azalea lace bug. Lastly, research focusing on resistant species and varieties may also shed light on the mechanisms of resistance in *Rhododendron* to azalea lace bug.

Composting Floral Waste

Comparative Analysis of Aerobic Composting of Fresh Cut Floral Waste. Coleman L. Etheredge and Tina M. Waliczek. *Journal of Environmental Horticulture* 40(3):103-108

The floral industry is currently undergoing a transformation as it attempts changes to become more environmentally friendly (Papas 2021, Thursd 2020). Over the past several years, more environmentally conscious products have been developed to allow florists to construct floral designs in a more environmentally friendly manner. However, little research has been conducted investigating what can be done with the waste produced as a result of floral design. This research sought to further understand how floral waste can be used within a compost system. Results suggest floral waste has the potential to be used in a mound compost system to create a quality compost suitable for use in the horticulture industry.

Lavender Propagation

Stock Plant Management of *Lavandula angustifolia* ‘Wee One’ Using Plant Growth Regulators. Lauryn Schriener and James E. Klett. *Journal of Environmental Horticulture* 40(3):109-115

Ornamental herbaceous perennials are in high demand as landscape plants in the western United States due to their relatively low maintenance. *Lavandula angustifolia* ‘Wee One’ is one of several perennials being evaluated as part of the Plant Select® program. Plant Select® is a collaborative program between Colorado State University, Denver Botanic Gardens and professional horticulturalists to provide plants designed to thrive in the high plains and mountainous regions of the western states (Plant Select 2021).

With the higher demands for ornamental perennials, growers in the Plant Select® program have seen an increase in problems associated with propagation and stock plant management. Our plant

of interest from the Plant Select® program is Wee One lavender. Research is lacking for specific propagation protocols to be used by the horticulture industry. Vegetative propagation is the most widely used method of propagation for Wee One lavender. However, success with vegetative propagation has been variable. Stock plant management and stock quality has a large impact on the success of cuttings taken from Wee One lavender. Stock plants treated with foliar applications of gibberellin (ProGibb T&O) at 100 mg·L⁻¹ (ppm) resulted in larger stock plants with more cuttings compared to nontreated control plants in one study. Applications of plant growth regulator treatments to stock plants had a variable effect on the rooting of cuttings. All cuttings had a 90% rooting percentage by the end of 4 weeks.

Plant Purchases

Plant Novices and Experts Differ in Their Value of Plant Type, Price, and Perceived Availability. Bridget K. Behe, Melinda J. Knuth, Alicia Rihn, and Charles R. Hall. *Journal of Environmental Horticulture* 40(3):116-122

Sales of horticultural products have increased, especially since the onset of the COVID-19 pandemic (Behe et al. 2022). In particular, demand for interior foliage plants considered to be rare has increased exponentially (Bryant 2022), in part due to consumers desire for less commoditized plants (Halleck 2021), as well as being fueled by social media exposure of more unique or rare plant options (Airhart 2019, Chapman 2019). Foliage plant buyers increased from 11% of American households in 2016 to 16% in 2020 (Whitinger and Cohen 2021), accompanied by increased expenditures on the category from 2020 to 2021 (Knuth et al. 2021a). Yet, researchers do not understand well the role that plant knowledge has on plant purchases. A better understanding of plant novices (those with less knowledge about plants) compared to experts (those with greater plant knowledge) could provide valuable marketing insight to horticultural marketers. Knowing that plant experts spent nearly twice as much money on plants and bought more plants (but fewer kinds of plants) compared to plant novices makes them more desirable targets for marketing and communication efforts. An increased understanding of who values rare plants (plant experts more than novices) and which group values moderate prices more (plant novices) can help growers, wholesalers, and retailers better communicate with their target market(s).

Soilless Substrate Fertilization

Effect of Irrigation, Fertilizer Rate and Placement, and Two Substrates on Growth of Rose and Hydrangea. Anelle Ammons, Anthony V. LeBude, James S. Owen, Jr., and Michelle McGinnis. *Journal of Environmental Horticulture* 40(3):123-128

There is an ever-increasing need to more effectively use water and mineral nutrient resources to maximize profitability, minimize environmental impact, and ensure climate resiliency. ‘Screaming Neon Red™’ rose and ‘Endless Summer® Bloomstruck®’ hydrangea were produced in 7.3 L (2 gal) of substrate with differing water to air ratio, controlled release fertilizer (CRF) application method, CRF rate, and irrigation volumes via daily cyclic irrigation over an 18-week period. A reduction in daily irrigation from 1.27 cm (0.5 in) to 0.76 cm (0.3 in) had no direct impact on either rose or hydrangea growth. Compared to the Aeration+ Potting Mix (AS40), the All-purpose Potting Mix (PM2), conventionally used by many growers,

with 7% more water retention and 5% less air space, increased rose and hydrangea crop shoot growth by 8% and 18%, respectively, most likely due to increased water and nutrient availability and subsequent decreased crop stress. A 0.75x CRF rate incorporated into the top half of the substrate only decreased rose and hydrangea growth on average 14% and 35%, respectively, when compared to

the 1x rate of CRF applied as either a top-dress or incorporated throughout the container profile. Future research is needed to look at the interaction between substrate physical properties and fertilizer rate and placement under varying irrigation regimes for high and low feeder crops to identify additional opportunities to conserve resources and possibly increase nursery crop profitability.

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