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Abstract. Eighteen Thuja species and cultivars were evaluated for ovipositional preference for, and relative susceptibility to, feeding by the arborvitae leafminer. Thuja occidentalis 'Hetz Midget' and 'Hoopesii' were least susceptible; *T. occidentalis* cultivars 'Gracilis', 'Holmstrup', 'Spiralis', and 'Techny', and *T. plicata* 'Fastigiata', were intermediate in susceptibility; *Thuja occidentalis* cultivars 'Aurea', 'Douglasii Aurea', 'Globosa', 'Hetz Wintergreen', 'Smaragd', 'Umbraculifera', 'Wagneri', 'Wareana,' and 'Waxen', and species *T. occidentalis*, and *T. plicata*, were highly susceptible to ALM feeding. Short trees suffered significantly less feeding compared to tall trees, with number of infested branch tips (IBTs) increasing with tree height. Short trees (<4 m) had significantly more feeding damage in the upper canopy zone and tall trees (>4 m) had greater damage in the lower and middle zones. Trees with very dense canopies had significantly fewer IBTs compared to trees with sparse, medium, and dense canopies, with IBTs decreasing as canopy density increased. There were no significant associations between number of IBTs and canopy aspect. Plant height, growth habit, and canopy zone and density appear to influence infestation levels and possibly ovipositional preference. These findings suggest some important ALM management guidelines for the nursery and landscape industries.

Key Words. Arborvitae; Arborvitae Leafminer; *Argyresthia thuiella*; Insect Ovipositional Preference; Susceptibility; *Thuja*.

Abstract. Until Dutch elm disease (DED) was accidentally introduced into the United States around 1930, the streets in many states were lined with American elms (*Ulmus americana*). This review highlights the aftermath of DED, and updates readers on the advances in our knowledge of the pathosystem, which consists of a tree, a fungal pathogen, and an insect vector. Conventional breeding has produced new cultivars of American elm that are more disease-tolerant, although still not resistant. Suitable DED-resistant hybrid elms have been bred using species from Europe and Asia. The discovery of diploid populations of American elm may open new opportunities in elm hybridization and genome analysis. Growing knowledge of resistance mechanisms reveals a complex interaction of anatomy, physiology, environmental factors, and tree age. The beetle's role is largely understood but appears not to be a viable point of attack in the war on DED. The genome of the fungal pathogen has been sequenced, and gene expression studies are well under way. There is a renewed interest in understanding the evolution, genetics, and physiology of the DED pathogen. The genetic engineering of elms has been demonstrated but not with the specificity and vigor as has been reported for genetically engineered American chestnut. Elm yellows, caused by a phytoplasma, are still a deadly problem for elms, although outbreaks are more regional than for DED. Germplasm resources are critical to elm improvement, and the first comprehensive survey of living elm species, hybrids, and cultivars growing in America is presented in tabular form.

Key Words: American Elm; Dutch Elm Disease; Elm; Elm Bark Beetle; Elm Yellows; Germplasm Storage; *Ophiostoma novo-ulmi*; Transgenic Tree; Tree Breeding; *Ulmus*.

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Abstract. Landscape professionals need target-selective insecticides for managing insect pests on flowering woody ornamentals that may be visited by bees and other insect pollinators. Chlorantraniliprole, the first anthranilic diamide insecticide registered for use in urban landscapes, selectively targets the receptors that regulate the flow of calcium to control muscle contraction in caterpillars, plant-feeding beetles, and certain other phytophagous insects. Designated a reduced- risk pesticide by the United States Environmental Protection Agency, it has a favorable toxicological and environmental profile, including very low toxicity to bees and most types of predatory and parasitic insects that contribute to pest suppression. Chlorantraniliprole has become a mainstay for managing turfgrass pests, but little has been published concerning its performance against the pests of woody ornamentals. Researchers evaluated it against pests spanning five different orders: adult Japanese beetles, evergreen bagworm, eastern tent caterpillar, bristly roseslug sawfly, hawthorn lace bug, oleander aphid, boxwood psyllid, oak lecanium scale (crawlers), and boxwood leafminer, using real-world exposure scenarios. Chlorantraniliprole's efficacy, speed of control, and residual activity as a foliar spray for the leaf-chewing pests was as good, or better, than provided by industry standards, but sprays were ineffective against the sucking pests (lace bugs, aphids, or scales). Basal soil drenches in autumn or spring failed to systemically control boxwood psyllids or leafminers, but autumn drenches did suppress roseslug damage and Japanese beetle feeding the following year. This study indicates that chlorantraniliprole can be an effective component of integrated pest and pollinator management programs on woody ornamentals.

Key Words. Anthranilic Diamide; Bees; Boxwood Leafminer; Boxwood Psyllid; Bristly Roseslug; Chlorantraniliprole; Eastern Tent Caterpillar; Evergreen Bagworm; Hawthorn Lace Bug; Japanese Beetle; Oak Lecanium Scale; Oleander Aphid; Pollinators.