

Dracaena Fluoride Toxicity

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Abstract

Dracaena spp. of various cultivars are sold abundantly in most garden centers and nurseries and are among the most common houseplants. Utilized for their stunning foliage, the variations of greens, yellows and whites liven any room. Unfortunately, many of these plants when grown indoors develop lesions on the leaves that detract from their aesthetic appeal and their market value. Until the 1970's, there was little published research on tropical houseplants. In 1974 Poole et al. published a production guide on *Dracaena*. Poole described necrotic lesions and attributed them to fluoride sequestering in the foliage. The research conducted herein aimed to find a suitable cultivar free from these lesions under select concentrations of fluoride. Four of the most commonly sold cultivars of *Dracaena* were chosen to determine which was the most resistant to fluoride damage. Three fluoride treatments were administered to the four *Dracaena* cultivars and included: 1ppm fluoride and 4ppm fluoride, along with a deionized water control. Necrotic lesions developed in the control treatment (DI water) as well as in both fluoride treatments (1 ppm and 4 ppm). There were significant differences between the treatments within each cultivar and between both dwarf cultivars ('Dwarf Janet Craig', 'Dwarf Warneckii') and the standard cultivar ('Janet Craig'). However, since the control plants developed necrotic lesions, the lesions cannot be attributed solely to fluoride toxicity. Fluoride toxicity is not specific to *Dracaena* spp. and effects many other plants such as *Camilla sinensis* (tea), *Chlorophytum* (spider plant), *Lilium longiflorum* (Easter lily) and many more. Further research is needed on fluoride toxicity in horticultural crops since fluoride is present in the tap water of most cities and municipalities and is attributed to causing necrosis on foliage and flowers, decreasing the market value and aesthetics of these crops.