

# Improving the Health of Declining Loropetalum in the Home Landscape<sup>1</sup>

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## Introduction and Purpose

The purpose of this publication is to familiarize homeowners with the symptoms of Loropetalum decline and to provide options to potentially improve the health of afflicted Loropetalum in the landscape.

*Loropetalum chinense* var. *rubrum* (Loropetalum), otherwise known as Chinese Witch Hazel, is a common landscape plant throughout north and central Florida. Loropetalum has attractive, burgundy-colored foliage in the spring and pink flowers in the spring and fall (Figure 1). Native to southern Asia and Japan, Loropetalum has increased in popularity following the introduction of several improved cultivars that are more compact with more colorful foliage (Gilman 1999).



Figure 1. Loropetalum is popular for its burgundy-colored foliage in the spring and pink flowers in the spring and fall.

Credits: A. Shober (UF/IFAS)

Loropetalum has been a relatively pest-free plant that grows well in full sun. It is often recommended as an alternative to azaleas for sunny areas of the landscape, where azaleas tend to perform poorly. Once established, Loropetalum grows satisfactorily in dry conditions and requires few, if any, pesticides. These characteristics make Loropetalum a popular plant selection for Florida-Friendly landscapes.

## Identifying Loropetalum Decline

In recent years, there have been increasing reports of Loropetalum decline in central and south Florida landscapes. In afflicted plants, new growth is stunted, growth appears abnormal, and the plants generally appear unhealthy (Figure 2). The eriophyid mite was originally suggested as a possible cause of decline. However, UF/IFAS and University of Georgia researchers indicated that decline is more likely due to nutrient deficiencies (not uncommon in sandy soils), particularly copper (Cu) and possibly zinc (Zn), manganese (Mn), and/or boron (B) (Ruter 2006; Shober et al. 2008). The cultivar ‘Ruby’ appears to be most susceptible to decline; in contrast, there have been few reports of problems with other cultivars, such as ‘Burgundy’, ‘Plum Delight’™, ‘Pizzazz’™, or ‘Sizzlin’ Pink’ (Figure 3).

However, individual cases of Loropetalum decline might be related to factors other than a micronutrient deficiency. Therefore, before seeking options to correct micronutrient deficiencies, it is important to determine if the plants are

1. This document is SL354, one of a series of the Soil and Water Science Department, UF/IFAS Extension. Original publication date July 2011. Revised July 2011. Reviewed December 2014. Visit the EDIS website at <http://edis.ifas.ufl.edu>.

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planted properly, are mulched according to UF/IFAS guidelines, and are watered properly. Many times, ornamental plants can exhibit decline symptoms if they are planted too deeply or watered improperly (over- and under-watering). For more information on proper planting refer to the EDIS publication ENH 1129/EP390: “Planting Shrubs in Florida Landscapes” available at <http://edis.ifas.ufl.edu/ep390>.



Figure 2. Stunted and deformed new growth on Loropetalum ‘Ruby’ in a commercial landscape in Orange County, Florida.  
Credits: A. Shober (UF/IFAS)



Figure 3. A ‘Ruby’ Loropetalum plant (left) shows symptoms of decline that may be a result of copper deficiency. A ‘Burgundy’ Loropetalum plant (right) appears healthy even when planted in the same landscape bed.  
Credits: J. Sowards (UF/IFAS Extension Putnam)

If the plants appear to be planted correctly, it may be beneficial to have the soil tested to determine potential nutrient deficiencies (e.g., phosphorus, potassium, and magnesium). The soil should always be tested *before* applying fertilizers (including micronutrients). Fertilizers applied in excess of plant requirements may cause runoff or leaching and pollute nearby water bodies. Also, over-application of fertilizers, especially micronutrients, can result in plant toxicity symptoms. For information on soil sampling and testing,

see the EDIS publication SL281/SS494: “Soil Sampling and Testing for the Home Landscape or Vegetable Garden” available at <http://edis.ifas.ufl.edu/ss494>.

## Homeowner Options for Controlling Loropetalum Decline

Homeowners and landscape maintenance personnel who grow or care for Loropetalum with symptoms of decline have a few options if the problems are related to micronutrient deficiencies.

### Plant Removal and Replacement

The easiest option is to remove symptomatic ‘Ruby’ Loropetalum plants and replace them with a less susceptible cultivar of Loropetalum, including those previously mentioned. Other Loropetalum cultivars tend to grow taller than ‘Ruby’, but they can be kept smaller with proper, selective pruning. Alternatively, declining Loropetalum can be replaced with another Florida-Friendly plant selection. *The Florida-Friendly Landscaping™ Guide to Plant Selection & Design* provides many alternatives to Loropetalum for the home landscape, and it is available at [http://fyn.ifas.ufl.edu/pdf/FYN\\_Plant\\_Selection\\_Guide\\_v090110.pdf](http://fyn.ifas.ufl.edu/pdf/FYN_Plant_Selection_Guide_v090110.pdf) or from your county Extension office. It is important to make sure that the plants you select are adapted to the site *before* you plant them. When in doubt, it is best to consult a qualified nursery professional or your local UF/IFAS County Extension Office. Locate your local Extension office at <http://solutionsforyourlife.ufl.edu/map/>.

### Foliar Applications of Soluble Copper

Foliar applications of soluble copper (Cu) have been shown to improve the appearance and performance of existing Loropetalum plantings with symptoms of decline (Figure 4). In contrast, soil applications of Cu and other micronutrients did not improve plant quality in the one study conducted to date. There are only a few options for soluble Cu (or other micronutrients) readily available to homeowners. Some water soluble fertilizer products available at garden supply stores will contain Cu and other micronutrients. However, the concentrations will be very low when applied at label rates, and the desired response may not occur. It may be possible to purchase micronutrient fertilizers, such as copper sulfate or Peter’s STEM, from online outlets or specialized garden suppliers. If using these materials, it is important to follow label rates and application methods to avoid damaging your plant.

For best results, we suggest applying a Cu/lime mixture to the foliage. To create this mixture, add 0.5 lbs powdered

copper sulfate pentahydrate and 0.25 lbs fresh hydrated lime to 10 gallons of water. Spray each individual plant thoroughly. Note that several common fungicides utilize Cu as the active ingredient. If Loropetalum are currently treated for a fungal pest, you may not need to apply an additional source of Cu to control decline.



Figure 4. Comparison of 'Ruby' Loropetalum quality between plants receiving no foliar copper fertilizer (left) and plants receiving copper sulfate/hydrated lime foliar fertilizer treatment (right). This photo was taken ten weeks after fertilizer treatments were applied.  
Credits: A. Shober (UF/IFAS)

Do not apply copper more than four times per year (quarterly) to avoid possible copper toxicity. Follow directions and spray each affected plant thoroughly. Do not apply Cu fertilizers to healthy plants. In addition, avoid spraying objects (i.e., house, patio furniture, cars, etc.) because Cu solutions may stain these items.

## Summary

Loropetalum is a popular landscape plant throughout north and central Florida. Over the last few years, there have been many reports of decline in Loropetalum grown in landscapes, which may be due to micronutrient deficiencies (especially Cu). Homeowners have a few options for treating declining Loropetalum in the landscape. Once other factors (e.g., proper planting, macronutrients, and adequate irrigation) have been ruled out as the cause for decline, homeowners may choose to remove or replace the declining plants or try to treat the plants for micronutrient deficiency. Foliar Cu sprays may improve the health of declining plants if applied correctly.

## References

Gilman, E.F. "Loropetalum chinensis Chinese Fringe Bush." EDIS Document FPS 355 (1999). University of Florida/IFAS, Gainesville, FL. Accessed July 22, 2011. <http://edis.ifas.ufl.edu/fp355>.

Ruter, J.M. "Righting Little-leaf on Loropetalum." *Ornamental Outlook* 14 (2006):13.

Shober, A.L., G.L. Leibee, and M.L. Kok-Yokomi. "Response of *Loropetalum chinense* var. *rubrum* 'Ruby' to Foliar Applications of Micronutrient Fertilizers and Miticide." *Journal of Environmental Horticulture* 26, no.4 (2008): 235-8.