



Stephen & Kristin Pategas

in the garden by Stephen and Kristin Pategas

A Tale Of Poor Habits And Plant Woes

Once upon a time in Orlando, there were three mature, healthy, and full East Palatka holly trees along the road in front of one of our client's homes. It was the trees' misfortune to be highly susceptible to a fungal disease called witches' broom (aka *Sphaeropsis tumefaciens*) that appeared in Central Florida a few decades ago. While this disease can be transmitted by wind and rain, it is usually passed along on infected pruning tools. Unfortunately, these glorious pyramidal hollies at about a twenty-foot height were also under power lines. The tree trimming crew came through and within a year the hollies were misshapen with gnarled branch tips and stunted foliage. They were also doomed. They were the victim of tools that were either not disinfected or improperly disinfected.

Some other hollies and plants such as oleander, ligustrum and crape myrtles are susceptible to witches' broom and there are a number of other diseases that will transfer on pruning tools used between parts of the same plant or onto different plants. Maintain clean pruning tools and sanitize them to deter the spread of disease.

Remove debris and make sure blade surfaces are smooth and without pits that can harbor microbes. Place the cutting surfaces in a disinfectant solution. Soak tools for at least five minutes (or as directed on the product label) and rinse with clean water or allow to air dry before use. A longer soaking period may be needed for pruning tool surfaces that are not smooth. Have multiple pruning tools, so one tool can soak in the disinfectant while the other tool is used for pruning. Disinfectant solution can be carried into the garden in a tightly sealed plastic bottle, wide enough so that tools can be dipped directly into it. The disinfectant solution should be replaced at least every ten plants or every two hours. In some cases, if a plant is diseased, tools should be disinfected between each pruning cut. Disinfectants should never be applied to pruning wounds because of their ability to further injure the plant and prevent callus tissue from forming, slowing the healing process.

Available Disinfecting Products (all products must be used as directed and could be a health hazard if improperly used)*

Household bleach (ex: Clorox): 25% solution (1 part bleach + 3 parts water) Note this solution will damage fabric and other material.

Pine oil cleaner (ex. Pine-Sol): 25% solution (1 part cleaner + 3 parts water)

Rubbing alcohol (70% isopropyl): 50% solution (1 part alcohol + 1 part water)

Denatured ethanol (95%): 50% solution (1 part alcohol + 1 part water)

Trisodium phosphate (Na₃PO₄): 10% solution (1 part Na₃PO₄ + 9 parts water)

Household Disinfectants (Lysol, etc): full strength

* The use of trade names is solely for the purpose of providing specific information. It is not a guarantee of warranty of the products names and does not signify they are approved to the exclusion of others of suitable comparison.

Sterilization is not a guarantee against the spread of plant disease, but it can greatly lessen the chance a plant will become infected. Develop good tool sanitation habits and minimize your plant woes.



Above: A healthy East Palatka holly.



Above: East Palatka holly infected with witches' broom.



Above: Pruners cleaned and sterilized.

Photos by Stephen G. Pategas/Hortus Oasis.