

# How to Submit a Woody Plant Sample to the KSU Plant Disease Diagnostic Lab

Trees and shrubs are popular visitors to the diagnostic lab as they often represent a large investment of time and effort and provide us with shade and possibly fruit. When problems arise, it is important to get a good diagnosis, and for that to happen we need a good sample. Here are a few items which will help us give you an accurate diagnosis.

## 1) Fill out the sample submission form found at:

<http://www.plantpath.kstate.edu/DesktopDefault.aspx?tabid=725>.

The more information you can provide on the sheet, the better. If you are not sure what an item means, feel free to give us a call and we can help you fill it out over the phone. It is especially important to know:

- When the problem first occurred.
- How widespread it is – are there other plants that are also declining in the area? Do they share the same symptoms? Are they the same species? Include plant ID for the host(s) as best you can.
- Describe the symptoms as the sample's appearance may change in shipment.
- What has the weather been like lately?
- How often is/are the plant(s) irrigated
- Properties of the soil or media the plant is grown in, such as drainage and pH.
- Summarize any applications of pesticides or fertilizers during the current season.

Please do not send payment with your sample as you will receive an invoice later.

**2) Choose the right sample.** For seedlings or small trees/shrubs, it is best to send in the entire plant along with the roots, as oftentimes the problem is on the root system. For larger trees, try to collect several branches, both affected and healthy for comparison.

If you have a larger tree or shrub or it is not feasible to send in the entire plant, try to find tissues that are in the process of declining rather than a portion of the affected plant that may have been dead for a while.

For example, if you are worried about a wilt disease, take a section from the affected tree/shrub that is flagging/wilted, but is not yet brown. A great way to check on host viability is to peel back some bark and see if the tissue is still green. Checking for flexibility can also help you decide on whether the sample is dead and dry or still alive.

**3) Take a large enough sample.** A few leaves or a small twig is not useful for diagnostic purposes. It

would be ideal if the entire plant could always arrive to the lab, but of course this is not realistic. However, sending in as much plant material as possible is going to result in a more accurate diagnosis. For larger trees and shrubs, please send several branches that are at least 18-24" in length. You may chop them up to make them fit into your shipping container.

Good rule of thumb: if you need a diagnosis for a wilting plant, try to get a branch section at least as wide as your thumb.

**4) Pack it up nicely.** Put the sample into a plastic bag as soon as it is collected to prevent the leaves from drying out. Take note not to place the submission form or any other stationary in the bag with the sample as it may be damaged in the shipping process. Staple it to the outside of the bag so that it arrives in good shape.

**5) Send it promptly (early in the week is best!).** Don't let the sample sit on your porch for a few days before mailing it. Biology waits for no one, so expedited shipment is recommended. Do not send your samples on a Friday. It is recommended that they be sent between Monday and Wednesday. Samples sent later than Wednesday will often sit in a hot mail distribution site over the weekend and will literally become cooked by the heat or simply ferment due to lack of oxygen. Samples can be taken directly to your local K-State Research and Extension office, or mailed to:

Plant Disease Diagnostic Lab  
4032 Throckmorton  
Kansas State University  
Manhattan, KS 66506

**6) Be patient.** For many diseases, it is necessary to perform tests that have wait times or incubation periods associated with them. Unfortunately, a stressful situation cannot speed up chemical or biological reaction rates, so take a deep breath and relax! You should receive some feedback within a week to two weeks. To check status the status of your sample, you may call us at **(785) 532 – 5810** M-F, 8a-5p, CST.



**Rule of thumb applied:** This branch is the right size for wilt diseases. Also, note the green tissue exposed under the cut-away bark.