

Special nursery and landscape alert

Phytophthora ramorum (aka Sudden Oak Death) - Kansas Update

Date: June 7, 2019

Phytophthora ramorum (*P. ramorum*), the cause of Sudden Oak Death, was recently confirmed by the Kansas Department of Agriculture in *Rhododendron* container plants in Kansas. The plants are part of a shipment to Walmart stores across Kansas and one Home Depot store in Pittsburg KS from a nursery in Oklahoma. The Kansas Department of Agriculture provides additional information at the following website: <https://www.agriculture.ks.gov/SOD>

What is *Phytophthora ramorum* and what does it infect?

Phytophthora ramorum is a fungus-like organism that causes a disease commonly known as Sudden Oak Death (SOD). On the west coast of the United States it is a serious problem in California coastal oaks and bay laurel. It can also infect a broad range of nursery plants at which point it is referred to as Ramorum blight. Other susceptible plants include rhododendron, azalea, camellia, viburnum, lilac, and periwinkle. A link to a longer host plant list is provided below. It can also infect oaks in the red oak group, including several species of oak native to Kansas.

What does the disease look like?

On oak trees, *P. ramorum* causes bleeding cankers on the trunk and a decline of the tree. Underneath the bark, the cankers have defined margins with a reddish-brown color as shown in photo 1 (Source: Bruce Moltzan, USDA Forest Service, Bugwood.org).

With the recent findings in container rhododendrons, our immediate concern is nursery plants. On nursery plant hosts the symptoms are often leaf scorch or foliar blight and sometimes a stem canker. Photos 2 and 3 show leaf symptoms (Source: Joseph O'Brien, USDA Forest Service, Bugwood.org). Websites at the bottom of this article provide additional photos. The symptoms can be confused with common problems such as sunscald. *Phytophthora ramorum* rarely causes death of nursery plants, but they serve as a source of infection for other nursery plants and to native oak plants.



What weather conditions favor *Phytophthora ramorum*?

The Phytophthora diseases are called water molds and they are triggered by wet conditions. Kansas has had significant rain this spring, so conditions have been favorable for the disease.

How is *Phytophthora ramorum* spread?

Long distance spread of this disease is through the movement of infected nursery plants between states. The disease can survive in infected plant tissue, soil and water, so local movement into landscapes would be through infected plant material. Spread from Rhododendrons in the landscape to nearby oak trees would be through aerial splash dispersal (ie rainfall) or water runoff.

What should I do if I purchased a Rhododendron this spring?

The Kansas Department of Agriculture is working with the affected Walmart and Home Depot stores to eradicate the diseased plants. To help reduce potential spread of the disease, homeowners who have purchased Rhododendrons from these stores should dig up the plant, including the root ball, double bag it in plastic, and send it to the landfill. Garden tools and shoes/boots that contacted the suspect plant should be sanitized with a commercial disinfectant before using them in other areas of the landscape. Contact the store where the plants were purchased to discuss a refund, as K-State and KDA cannot provide information about refunds. KSRE county extension agents can help homeowners with questions. A website to help find your local agent is at this website: <https://www.ksre.k-state.edu/about/stateandareamaps.html>

What is the risk for Kansas oaks?

This is the first introduction of *Phytophthora ramorum* into Kansas and the Kansas Department of Agriculture, Kansas State University, and the Kansas Forest Service will continue to monitor its progress. The disease is a threat to Kansas forests and landscapes. K-State Research and Extension will be sharing information on the disease as developments occur. *Phytophthora ramorum* was first detected in the US in California in 1995. Its impact is still being assessed by the United States Department of Agriculture and the United States Forest Service.

Kansas oak forests occur primarily in the eastern third of Kansas, the western edge of the central hardwood forests. The red oak group is known to be susceptible to sudden oak death. Potentially susceptible Kansas species may include red oak (*Quercus rubra*), black oak (*Quercus velutina*), pin oak (*Quercus palustris*), blackjack oak (*Quercus marilandica*), shumard oak (*Quercus shumardii*), scarlet oak (*Quercus coccinea*), and shingle oak (*Quercus imbricaria*). Factors that would affect the potential movement of *Phytophthora ramorum* into Kansas oak forests would be the presence of infected plants (such as Rhododendron) planted into home landscapes in oak water sheds, along with wet weather. Spring 2019 has been very wet and conducive to disease. The risk for *Phytophthora ramorum* establishment into oak plantings in western Kansas is lower than eastern Kansas because it is typically drier and there are fewer susceptible trees, but there still is risk.

More information on *Phytophthora ramorum* can be found at the following websites:

Kansas Dept of Agriculture website: <https://www.agriculture.ks.gov/SOD>

Sudden oak death: <http://www.sudden oak death.org/about-sudden-oak-death/>

Indiana Phytophthora ramorum Landscape Alert

<https://www.purduelandscapereport.org/article/special-alert-sudden-oak-death/>

USDA Phytophthora ramorum host list

https://www.aphis.usda.gov/plant_health/plant_pest_info/pram/downloads/pdf_files/usdaprlst.pdf

Additional items: Ramorum blight FAQs and flow chart for KSRE agents

Prepared by Megan Knelly, KSU Plant Pathology June 14 2019 Watch for further updates

General notes:

Discard = Bring 2 large plastic bags to the location of the plant. If still in pot, put pot and entire plant inside. If planted, dig up the root ball as well to discard. Double bag, sealing each bag closed with twist tie or similar. Discard in trash. Sanitize the shovel and shoes/boots that may have touched the plant. Treating the planting hole is not recommended.

Affected stores: As of 6/14/19 – this means Walmarts across KS and the Home Depot in Pittsburg KS.

Affected timeline: Plants purchased in April, May, and June 2019

Rhododendron = true rhododendrons. Varieties that have been identified as infected include: Cat Cunningham Blush, Firestorm, Holden, Nova Zembla, Percy Wiseman, Roseum Elegans, and Wojnars Purple. However, since people do not always remember the variety, plants were likely comingled at stores, tags can be mixed up, and not all varieties have been tested, our recommendation is to discard all rhododendrons purchased at an affected store during the affected timeframe.

Refunds are beyond the scope of K-State or KDA. Contact store for questions.

“Other hosts” = other plant species that are known to be susceptible to Phytophthora ramorum or to be carriers. This is a big list, but the most common are azalea, lilac, viburnum, pieris, camelia

Questions:

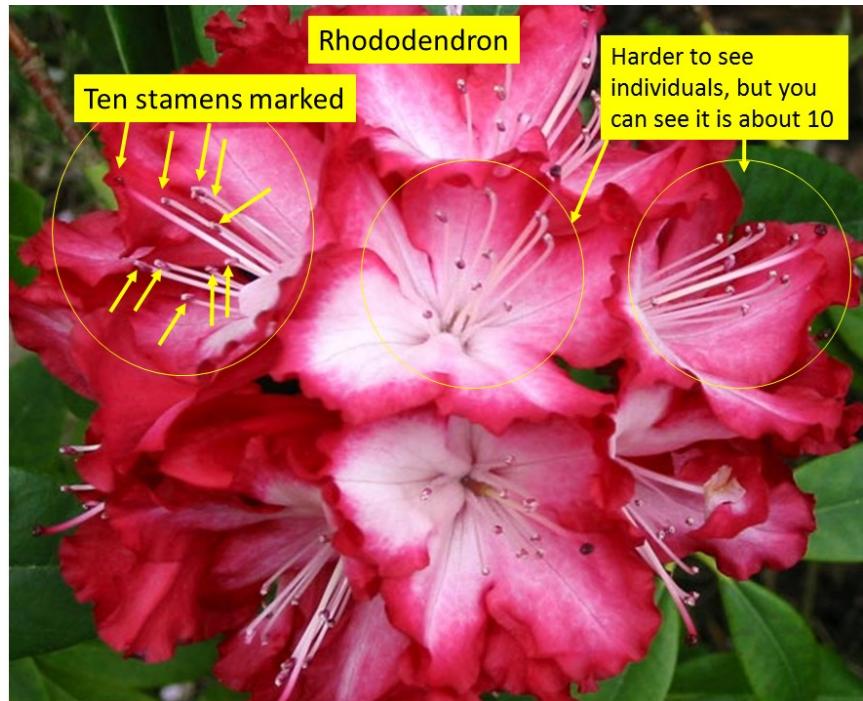
- What if a commercial nursery or garden center is concerned that plants they received may be involved in this outbreak?
 - Commercial businesses should contact local KDA field staff. Map with names, phone numbers, and emails is available here:
https://agriculture.ks.gov/docs/default-source/pp-plant-protection-page/ppwc-staff-4-22-199ceee8002e6262e1aa5bff0000620720.pdf?sfvrsn=478c8ac1_0
- What is Kansas doing to address this problem?
 - Kansas Department of Agriculture has visited all the stores that received rhododendrons known to be involved in the affected shipments, destroyed any plants involved in the outbreak and co-mingled plants using established protocols, and sanitized the areas. KDA continues to monitor the situation and work with regulatory agencies in neighboring states. KDA, KSU, and Kansas Forest Service are working closely together to address this emerging situation. If the situation changes, more updates will be provided, such as if other stores or species are found to be affected.
- How can I tell the difference between an azalea and a rhododendron?
 - Rhododendron foliage is leathery, long, and thick. Azalea foliage is thinner, smaller and more flexible. Leaves can smooth and glossy or covered with bronze hairs for both.

- Count the stamens on the flowers. See the diagram below. Rhododendrons have 10 or more, azaleas have 5-6. There is some variation, this method works most of the time.

Rhododendron flowers have 10 or more stamens – the thin stem-like sticks coming out at center of flower.

In contrast:

Azaleas have only 5-6



- What about existing nursery plants in the landscape, such as rhododendrons, lilacs, camellias, azaleas, or viburnums planted last year? Do we need to worry about those?
 - Our main concern at this time is plants that were newly purchased this spring, as they are the potential source. If someone has existing plants (rhododendron, lilac, pieris, azalea, camelia) showing symptoms AND they had purchased a new rhododendron this year at a Walmart (or the Home Depot in Pittsburgh), what you can do is ask for photos and send them either to me (kennelly@ksu.edu) preferably to this address: clinic@ksu.edu and we can determine if follow-up is needed.

If someone just has existing plants, and no new rhododendrons or other suspect hosts were introduced, it's highly unlikely it would be this disease because there would have been no source. There are other diseases and abiotic stresses that can affect these species.

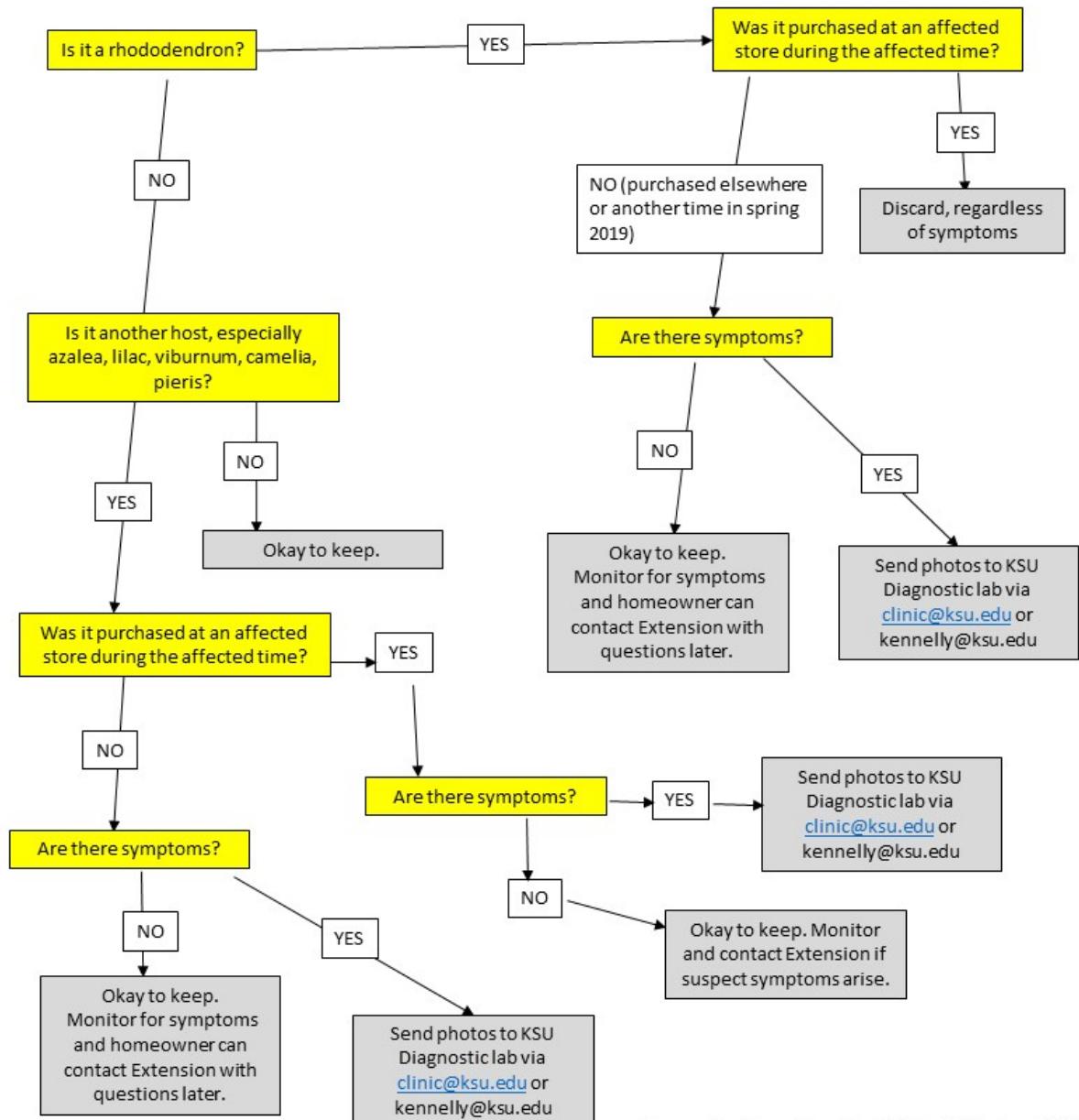
- What about oaks in the landscape? Do we need to be looking at them now?
 - Reminder – this only affects oaks in the red oak group.
 - If no new rhododendrons or other suspect hosts were introduced, it's highly unlikely the disease would be on their existing oaks because there would have been no source.
 - If someone has oaks AND purchased a new rhododendron this year at a Walmart (or the Home Depot in Pittsburgh), that had been planted for awhile this spring, yes in theory the disease could have spread before that rhododendron was discarded. However - It is highly unlikely that any symptoms could have developed on oaks by now. Those symptoms take more time to develop. Additional monitoring for potential spread into oaks will be a more

long-term focus.

Decision tree for K-State Research and Extension agents

This flow chart is for plants purchased spring 2019.

When it says look for symptoms, you can check these guides along with the websites elsewhere in this document:
<http://www.sudden-oak-death.org/about-sudden-oak-death/> see "Symptom Gallery" on right-hand side
http://www.sentinelplantnetwork.org/sites/default/files/ramorum-blight_PhotoClue_15_sm_0.pdf



Prepared by Megan Kennelly, KSU Plant Pathology, 6/14/2019
Watch for updates as this could change if there are further developments