Key to determine the need to sample for *Phytophthora ramorum*

1. What county is the plant in question growing in?

a. Alameda, Contra Costa, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma (**Confirmed *P. ramorum* infested county);** or San Luis Obispo, Del Norte, San Benito **(Counties not known to be infested, but are of concern); if yes ➔ go to 2.**

b. other counties – **Unlikely that it is *P. ramorum*, unless on recently acquired nursery plant (see 10. a.)**

2. What plant or plants are affected?

a. Black oak, canyon live oak, coast live oak, Shreve oak or tanoak; **if yes ➔ go to 3**

b. Foliar host (see host list) or closely related; **if yes ➔ go to 8**

c. No plants from this genus are listed as foliar hosts, and it is not one of the above species of oak – **probably not *P. ramorum***

3. What are the symptoms on the oak or tanoak?

a. Bleeding from the bark; **if yes ➔ go to 4**

b. Leaf spots or dying twigs –**not *P. ramorum* on true oaks. Tanoaks can show leaf and twig symptoms, but often accompanied by bleeding and dead trees.**

c. Tree is dead (make sure it is not just defoliated); **if yes➔ go to 12**

4. If bleeding is present, are there any wounds, cracks at the site of the bleeding, or is the bleeding <u>only from</u> insect holes?

a. yes – **probably not *P. ramorum*, especially if the amount of bleeding is fairly heavy and has a foul odor.**

b. no wounds or cracks, there is bleeding that is not from insect holes (although insect holes may be present in addition to the bleeding), and the bleeding does not have a foul odor; **if yes ➔ go to 5**

5. Where is the affected tree(s) located?

    a. urban area without surrounding natural vegetation or planted nursery hosts - **probably not *P. ramorum*. Could be rootpathogen. Make sure tree is not being watered around the base.**

    b. urban landscaping with planted nursery hosts (rhododendron, camellia, Pieris, or Viburnum); **if yes, check for infection of nursery plants ➔ go to 10**

    c. urban-wildland interface or oak woodland, ➔ **go to 6**

6. Are there California bay laurels nearby, and do the leaves have dead tips? (see pictures in binder publications or website)

    no ➔ **go to 7**

    yes – **may be *P. ramorum*, refer to County Agricultural Department or arborist for sampling**

7. Are foliar hosts besides CA bay laurel present, and more than one tree affected?

    no – **probably not *P. ramorum***

    yes - **may be *P. ramorum*, but more likely root pathogen, have arborist check**

8. Foliar hosts with leaf spots or twig dieback.

    a. if plant is **buckeye**, and it is July or later - **probably not *P. ramorum*** (summer deciduous)

    b. other foliar hosts; **if yes ➔ go to 9**

9. Do the leaf symptoms match pictures from Web site or literature? In general dead spots on the leaf, irregular in shape and large in relation to the size of the leaf, sometimes killing petiole and twig (varies by species).

    no - **probably not *P. ramorum***

    yes - ➔ **go to 10**

10. **Is it a naturally growing plant, or was it purchased recently from a nursery and planted (rhododendron, camellia, Viburnum or Pieris)?**

   a. recent nursery purchase – **check with the nursery about *P. ramorum* inspections**

   b. Nursery plant purchased more than 1 year ago, or several naturally growing plants; **if yes ➔ go to 11**

   c. only one naturally growing plant affected - **probably not *P. ramorum***

11. **Are there other host species in the area showing foliar symptoms (especially California bay laurel) or oaks/tanoaks showing bleeding symptoms?**

   no - **probably not *P. ramorum***

   yes – **may be *P. ramorum*, refer to County Agricultural Department or arborist for sample**

12. **If tree is dead, how fast did it turn brown?**

   a. gradual yellowing and/or thinning over several years - **possibly *P. ramorum* (go to 13), but look for overwatering or signs of root disease as more likely cause**

   b. relatively rapid progression from healthy-green to dead-brown, full complement of dead leaves still on the tree; **if yes ➔ go to 13**

13. **Has there been any recent (1-5 years) construction, grading, etc. within about 20 feet of the tree?**

   yes - **probably physical damage, not *P. ramorum***

   no ➔ **go to 14**

14. **Are there foliar hosts (especially bay laurel) near the dead tree, or signs of past bleeding (dried beads of sap or reddish-brown staining) on the bark?**

   no - **probably not *P. ramorum***

   yes – **may have been killed by *P. ramorum*. Confirmation would need to be done on a living tree, or preferably bay laurels, nearby.**