The Connecticut Agricultural Experiment Station
123 Huntington Street, P. O. Box 1106
New Haven, CT 06504

Phone: (203) 974-8474, (203) 974-8601
or Toll-free 1-877-855-2237
Fax: (203) 974-8502

Decision/Triage Key for Sampling for *Phytophthora ramorum*

Developed by V. L. Smith and S. M. Douglas

1) What plant or plants are affected?
   a. true oaks: go to 2
   b. non-oak plant on the USDA APHIS-PPQ lists of proven or associated hosts, or a closely-related plant species (current lists available online: http://www.aphis.usda.gov/ppq/ispm/pramorum/pdf_files/usdasodlist.pdf): go to 7
   c. plants not listed as hosts and not a true oak: no need to sample

2) What are the symptoms on the true oak?
   a. bleeding canker or bleeding from the bark: go to 3
   b. leaf spots or twig dieback: not *P. ramorum* on true oak
   c. tree is dead (make sure it is not just defoliated from other reasons such as gypsy moth): go to 11

3) If bleeding is present, are there wounds or cracks at the site of bleeding or is the bleeding associated with insect holes?
   a. yes: probably not *P. ramorum*
   b. no wounds or cracks, bleeding is not from insect holes and there is no foul yeasty odor: go to 4

4) Where is the tree located?
   a. urban area without surrounding naturally-occurring vegetation or recently planted nursery hosts: probably not *P. ramorum*
   b. urban landscape with recently planted nursery hosts—check for infection of nursery plants: go to 9
   c. urban-woodlot interface or oak woodland: go to 5

5) Are there symptomatic camellia or Ericaceae nearby?
   a. no: go to 6
   b. yes: may be *P. ramorum*—TAKE A SAMPLE

6) Are other non-oak hosts nearby or is more than one true oak affected?
   a. no: probably not *P. ramorum*
   b. yes: may be *P. ramorum*—TAKE A SAMPLE

7) Do the non-oak hosts have symptoms of leaf spots or twig dieback?
   a. if plant is buckeye, horsechestnut, or sugar maple, and it is July or later, probably anthracnose or leaf blotch
   b. other non-oak hosts: go to 8

8) Leaf symptoms—dead spots on leaves, irregular in shape, large in relation to total size of the leaf, sometimes killing petiole and twig (will vary with species)—matching pictures from web sites or literature?
   a. no: probably not *P. ramorum*
   b. yes: go to 9

9) Is it a naturally-occurring plant or was it purchased recently from a nursery and planted into the landscape?
   a. a recent nursery purchase: check with nursery about *P. ramorum* inspections
   b. nursery plant purchased more than 1 year ago, or several naturally-occurring plants: go to 10
   c. only one naturally-occurring plant: probably not *P. ramorum*

10) Are other host species in the area showing symptoms?
   a. no: probably not *P. ramorum*
   b. yes: may be *P. ramorum*—TAKE A SAMPLE

11) If the tree is dead, how fast did it turn brown?
   a. gradual yellowing and/or thinning over several years: possibly *P. ramorum* BUT other causes such as overwatering or a root disease (*Armillaria*) are more likely causes
   b. relatively rapid progression from healthy green to dead brown; leaves remain on the tree: go to 12

12) Has there been recent (1-5 years) construction, grading, compaction, etc. within 20 feet of the tree, ice storms, or a recent severe thunderstorm?
   a. yes: probably physical damage, not *P. ramorum*
   b. no: go to 13

13) Are there non-oak hosts of *P. ramorum* near the dead tree or signs of past bleeding (reddish staining) on the bark?
   a. no: probably not *P. ramorum*
   b. yes: may be *P. ramorum*—TAKE A SAMPLE—from nearby living trees or non-oak hosts

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