



**UNIVERSITY OF CALIFORNIA**  
Agriculture and Natural Resources  
UC Master Gardeners of Napa County

## Healthy Garden Tips

napamg.ucanr.edu  
707-253-4221

### TIPS FOR DIAGNOSING PLANT PROBLEMS CAUSED BY INSECTS AND MITES

By C.S. Koehler & Dean Donaldson

1. More than half the problems brought to our attention will be attributable to factors other than insects and mites.
2. The cause of poor plant performance may not be evident on the plant sample presented for diagnosis. The cause may lie further down the plant.
3. The presence of insects or mites does not always mean that those are the real cause of poor plant performance.
4. If the entire plant is dead, the chances are great that insects or mites were not the cause of death. Insects and mites seldom kill their host plant.
5. Most insects and mites show specificity in their choice of plants. Some are general feeders, but the majority are not. Knowing the name of the affected plant is therefore extremely helpful in determining the identity of the offending insect or mite.
6. The application of pesticides may resolve symptoms but seldom addresses the cause of a problem.
7. Insect populations run in cycles. By the time many people notice a pest problem and seek advice, it is often too late that season to take corrective action.
8. Insects and mites must feed in order to survive and reproduce. Evidence of their feeding will nearly always remain on the plant even after the insect/mite is gone. Most signs and symptoms of insect and mite activity fit into one or more of the categories listed below.
9. Symptoms can be categorized according to the type of insect causing the damage. Check UC publications and "Pest Notes" handouts for specific control measures. Management is the same for insects within a category.

#### SYMPTOM OR SIGN

Chewed leaves or other plant parts

Bleached, yellowed, or stippled leaves

Distortion (twisting, cupping, swelling) of plant parts

Dieback of twigs or branches

Presence of excrement, sooty mold, flocculence, froth, or other product

#### PROBABLE INSECT OR MITE CAUSE

Caterpillars, beetles, sawflies (also leafminers, whose chewing is inside the leaf)

Leafhoppers, aphids, psyllids, thrips, mites

Thrips, aphids, blister (bud) mites, gallmakers, psyllids

Borers, scales (also diseases)

Aphids, soft scales, mealybugs, whiteflies  
Adelgids, thrips, lacebugs, spittlebugs

## TIPS FOR DIAGNOSING PLANT DISEASE PROBLEMS

By Dean Donaldson, Farm Advisor

1. Most major plant problems result from poor growing conditions or poor drainage.
2. Most diseases occur in 'waves' and cycles as host, pathogen and weather interact.
3. Diseases are favored by both plant sensitivity and general garden conditions.
4. By the time many people notice the condition and seek advice, it is often too late that season to take corrective action. It is important to distinguish between 'inactive' and 'active' plant symptoms.
5. Fungicides are preventive: timing and coverage are more important than rate used. The application of a pesticide is not the solution to every plant problem.
6. Bacteria feed by dissolving plant tissue, producing slime and smelly residue. They are favored by warm wet conditions when plants are growing rapidly.
7. Fungi grow into and erupt from plant tissue. Look for old fruiting bodies or cankers. Most fungi are favored by free moisture or high humidity, although some require dry conditions.
8. Common disease symptoms occur each year. Check UC publications and "Pest Notes" handouts for specific control measures. Most signs and symptoms of disease activity fit into one or more of the following categories:

### COMMON SYMPTOM OR SIGN

### PROBABLE DISEASE TYPE

Collapsed, bleeding or slimy parts  
Parts may show sudden collapse  
Leaf spots melt into 'scorch'

Bacterial diseases:  
blight, scorch

Wilted plant tips, stained vascular tissues,  
fruiting bodies may erupt through tissue,  
may produce cankers, leaf spots have  
distinct margins

Fungus diseases:  
wilts, blights, cankers  
leaf spots, rots

Galls on branches, stems, and roots

Bacteria or Fungus (sometimes  
insects)

Gray or white deposits on leaves or stems,  
new growth may be twisted.

Fungus disease (mildew)

Bright bands of leaf color, stunted growth,  
poor pollination, 'tattered' leaves, weird  
growth

Virus diseases