

# PROBLEM MANAGEMENT

by Balakrishna Rao, Ph.D.

## Recovering from construction

**Problem:** We have some large maple trees damaged by recent road and sidewalk installation. How can we help the trees to recover from this construction damage? Would you recommend drop crotch or thinning out type of pruning to help them? (North Carolina).

**Solution:** Generally, correcting construction damage after it is done is difficult, expensive and usually not as successful as pre-construction care. Since you are dealing with already damaged trees, provide a maintenance program including proper fertilizing, watering and pruning. Since the trees are already under severe stress, use fertilizers containing a slow-release, low-burn source of nitrogen. Maintain good moisture content in the soil by proper watering as needed. Deep root watering is preferred.

Any damage to the root system will be reflected in a thinning or dying of the canopy.

Plants affected by construction damage need some pruning to maintain the root-to-shoot ratio. If it is not done plants tend to show dieback like a "self-pruning process." Since we don't know where and how much root is damaged, a light thinning of smaller branches would be beneficial. Remove (thin) the branches which show dieback every year. Schedule to provide a light pruning program for 4-5 years.

Drop crotching or other pruning involving the removal of larger branches is not recommended unless the shape of the tree needs to be maintained. Study the tree's crown and remove any large dead or rubbing branches and maintain the shape. Consider aerifying the area within the dripline to help minimize compaction and fill damage. Drill holes beyond the hard pan, three feet apart, using an auger, and fill it with pea gravel. Use straw to cover the gravel surface and fill the rest of the hole with top soil.

In general, the most successful way to save desirable trees from construction damage is to start proper care and treatment before the actual construction begins.

## Transplanting and 'oak wilt'

**Problem:** My question concerns "oak wilt" and the correlation, if any, to transplanting. Specifically, I must plant a certain quantity of burr, white, and red oak by May 10 to prevent the onset of this problem. This was related to me by a state forester regarding a project of ours. Is there a correlation between planting date and "oak wilt"? What is the suggested treatment and preventive measures, if any? (Wisconsin)

**Solution:** I am not familiar with any documented publications or reports suggesting there is a correlation between planting date and oak wilt disease. Verify the source of state foresters' recommendations for planting burr, white, and red oak by May 10 to prevent the onset of oak wilt.

Although not documented or personally observed, I speculate the following reasons concerning the above recommendation:

1. Plants, particularly oak, with extensive deeper tap root systems, may have a problem of establishing when transplanted after May 10. During the digging and transplanting process, a considerable amount of root injury and loss can occur which affects their recovery and establishment.

2. This transplant shock and slow root development after transplanting may be further aggravated by low moisture content in soil during May, June and later on. This exposes plants to cultural and environmental stress.

3. These stress factors predispose plants to different insect and/or disease problems. If there is an oak wilt affected tree within 40 ft. of newly transplanted oaks, it may get the disease through root graft transmission. However, I am not sure whether younger trees are more or less susceptible to the disease.

4. If there were any open wounds or bark injury during planting, it may attract oak bark beetles (*Scolytidae*) and sap beetles (*Nitidulidae*), which are the vectors for spreading oak wilt. This is the reason arborists try to avoid pruning oaks during May and June periods.

As far as "suggested treatment," if it is scientifically proven that there is a correlation between transplanting and oak wilt disease spread, then plant oaks at the recommended time.

As far as prevention, the following guidelines might be helpful:

1. If oak wilt is detected, remove the tree promptly.

2. Healthy trees within 40 ft. of diseased trees should be protected from root graft transmission mechanically by trenching or chemically by Vapam treatment of soil 18 inches deep in a line 40 ft. away from the diseased tree. Generally, wait 10 to 12 days after Vapam treatment to remove the diseased trees. Avoid root graft transmission of newly transplanted trees.

3. Avoid pruning or wounding around May and June.

4. Provide an insect management program.

5. Provide good plant health care programs to improve plant vitality.



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Questions should be mailed to Problem Management, LANDSCAPE MANAGEMENT, 7500 Old Oak Boulevard, Cleveland, OH 44130. Please allow 2-3 months for an answer to appear in the magazine.