

# VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

**Q:** Could you tell me if the nematode that kills pines is in our area and if it affects blue spruce? What are the symptoms? (Massachusetts)

**A:** The pine wood nematode (*Bursaphelenchus xylophilus*) has now been reported in 34 states including Massachusetts. It has been found in 20 pine species, larch, balsam fir, two species of *Cedrus*, and white and blue spruce. The initial foliage symptoms are lighter green color and droopy needles. Affected trees may die all at once or the lower branches may stay green a little longer.

**Q:** I know that pH is a measure of the acidity in the soil, but what do the letters actually stand for? I have not been able to find this in any of my books that discuss pH.

**A:** According to Webster's dictionary, the "p" in pH stands for "potential of" and the "H" for "hydrogen."

**Q:** Should nitrogen fertilizer be added when organic mulches are used around ornamentals and, if so, how much should be applied? (Colorado)

**A:** As organic mulches decompose, some of the soil nitrogen in contact with the mulch is used by the decomposition organisms. Nitrogen deficiency (evidenced by leaf-yellowing (primarily of the lower leaves) may occur, depending upon the nature of the organic matter and the degree of decomposition. If this occurs, nitrogen fertilizer should be added as soon as possible. Two to two and one-half pounds of ammonium nitrate per 1000 sq. ft. or equivalent should be sufficient.

**Q:** Do mulching mowers reduce thatch buildup or improve turfgrass quality? (North Carolina)

**A:** Mulching mowers are relatively new and, although preliminary research results are favorable, continued research over several years is needed to assess the effect on turf quality.

Kentucky bluegrass plots at the University of Massachusetts mowed with a mulching rotary mower were reported as having significantly higher shoot density, dry weight and quality ratings but no significant differences in thatch depth compared to plots mowed with a conventional rotary mower.

Research at Texas A & M University on irrigated tall fescue indicate that there are few differences in turfgrass color, quality or thatch buildup after one season of observations when compared to turfgrass mowed with a standard rotary mower. However, turfgrass mowed with a mulching mower seemed to remain green longer into the fall and winter.

**Q:** In addition to competing for water and nutrients, do grasses produce toxic substances that inhibit the growth of field-grown nursery stock? (Pennsylvania)

**A:** Allelopathy is any direct or indirect harmful effect of one plant on another through production and liberation of chemical compounds into the environment.

Since it is difficult to distinguish between competition and allelopathy, many researchers use the word "interference" when the causes of growth are not clearly competition or allelopathy.

Research conducted at the University of Rhode Island has shown that leachates from perennial ryegrass, red fescue and Kentucky bluegrass suppressed the growth of flowering dogwood and forsythia. Although this is a clear indication of allelopathy, whether or not other woody plants are affected and to what extent will require further research.

**Q:** What are the best means of improving and texturing soil for development of improved grass root systems? (New Jersey)

**A:** For good root development and establishment of a lawn, a layer of 4 -6-in. deep top soil having good texture and structure is necessary. Soil texture refers to the size of soil (mineral) particles. Based on texture, soils can be classified as sand, silt and clay. Different home lawns, golf courses, athletic fields and other turf culture may have different soil textures. A soil testing is necessary to determine the condition.

The ideal soil texture for growing turfgrass is a loam, and extremes in soil texture (sands and clays) can be modified with the incorporation of either organic materials or mineral soils.

Organic materials such as peat or manure should be spread in a 2 -4-in. layer and then incorporated into the soil 6 -8-in. deep. Peat humus is the most desirable for soil modification because of its nitrogen content, pH and water absorbing capacity. Composted organic materials also can be used.

Mineral soils such as sand or clay can be used to improve soil texture. For partial modification of a sandy soil, a loam soil high in organic matter and containing 5%-8% clay can be used. For partial modification of a clay, a sand and organic matter is mixed into the upper 10 - 14-in. of root zone.

**NOTE:** Concerning control for the honeysuckle aphid which was discussed in the January 1982 "Vegetation Management" column, recent information from the University of Illinois indicates that nonsystemic insecticides such as malathion and sevin may not be effective. In addition, dormant oil applications appear to be of little value.

Applications of orthene or cygon when symptoms of infestation first appear have given the best results. Pruning and sanitation are also beneficial.

---

**Send your questions or comments to: Vegetation Management c/o WEEDS TREES & TURF, 757 Third Avenue, New York, NY 10017. Leave at least two months for Roger Funk's response in this column.**