COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT, LEXINGTON, KY, 40546

ID-52

What's Wrong With My Taxus?

Cheryl A. Kaiser and Nicole A. Ward Gauthier, Plant Pathology, Lee H. Townsend, Entomology, and Richard E. Durham, Horticulture

Taxus (yew) is an evergreen shrub commonly found in Kentucky landscapes. Numerous conditions can cause these shrubs to exhibit yellowing and browning symptoms. While diseases (Figure 1) and insect pests (Figures 2, 3, and 4) can result in damage, Taxus troubles are often the result of adverse growing conditions. Pinpointing the specific cause requires a thorough examination of the affected shrub, an investigation of the surrounding area, and knowledge of possible stress factors.

The following questions and supplementary information are meant to assist homeowners and consultants in determining the cause of Taxus decline. Answering "yes" to one or more of these questions should suggest a possible cause to the shrub's troubles.

The Affected Shrub

Are there any apparent wounds or broken branches?

Examine the shrub for evidence of wounds due to physical injury. Types of injuries include:

- Bark torn or cut away from twigs, branches, or trunks
- Partially broken branches
- Nursery tag wires or strings that were not removed

Bark torn from as little as one-third the circumference of a branch may cause the branch to die from the wound upward to the growing tip. Similarly, broken branches and nursery tags that restrict growth can result in yellowing of needles. Death of affected branches may eventually occur, although damage may not be evident until the following summer.

Recommendations:

- Prune dead and broken branches.
- Fertilize in late autumn.

Figure 1. Needle dieback resulting from root loss. Phytophthora root rot (shown here) and "wet feet" can both cause similar symptoms as a result of root damage.

Are there any cankers?

Look for dead, sunken areas on twigs and branches that show yellowing and dieback. Several fungi (e.g. *Pestalotia, Phyllostictina, Physalospora*, and *Sphaeropsis*) can cause cankers that girdle branches.

Recommendation:

- Prune dead and broken branches.
- Destroy branches that have cankers.

Do needles appear to have been chewed?

The black vine weevil chews semi-circular holes or notches along the edges of Taxus needles (Figure 2). Weevil feeding on leaves is not a significant problem in Kentucky; however, the legless grub-like larvae may feed on roots. Root injury can cause needles to turn yellow, and portions of the shrub may die. Continued damage can lead to the death of the entire shrub. Black vine weevils can be accidental invaders in homes in autumn, another indication of an infestation.

Recommendation:

- Foliar sprays in May and June will kill black vine weevils and ultimately may help to reduce root damage by larvae.
- Some insecticides are labeled for drench application around the base of Taxus to kill larvae in the soil from late summer through early autumn.
- Contact your county Extension office for current information on management of the black vine weevil.

Do buds fail to grow in the spring?

Occasionally, Taxus bud mites can damage or kill buds. Needles and shoots may also become distorted. These mites are small, so proper identification can be difficult.

Recommendation:

- Applications of a mite-control product in May and again in mid- to late June may provide some control.

Are needles covered with a sooty black deposit?

Sooty molds are black-colored fungi that develop on the sticky secretions (honeydew) left by certain sucking insects. The sooty mold fungus is not pathogenic, but its growth shades needles and may reduce photosynthesis. Infestations of sap-feeding insects will result in yellowed, unthrifty foliage, poor growth, and may cause branch or plant death.

Insects that can leave honeydew deposits include:

- Cottony Taxus scale—usually found on underside of needles; crawlers are active in June
- Fletcher scale—a stationary hemispherical brown insect about the size of half a BB shot (Figure 3); crawlers are active in mid-June
- Taxus mealybug—tends to be found in clusters in branch forks and along stems and branches (Figure 4); there are several generations of this insect each year.

Courtesy of Missouri Botanical Garden

Figure 2. Black vine weevil feeding causes notches in needles.

Figure 3. Fletcher scale adults are flat, oval, stationary brown insects.

Figure 4. Taxus mealybug cluster in branch forks and along stems.

Recommendations:

- Sap-feeding insects often thrive on stressed plants. Follow a good fertility and watering regime to promote plant health. Do not over-fertilize.
- Remove heavily infested branches.
- Protect new growth with insecticide sprays applied to the crawler or nymphal stages of the insects.

Is only the interior foliage affected?

Browning of interior needles (older growth) while tips (new growth) remain green may be due to a couple of issues. In late summer or early autumn, all three- to five-year-old needles may suddenly turn yellow throughout interiors of shrubs. Needles remain on shrubs for several weeks before they fall. This is normal needle senescence (drop) and should not cause concern.

Browning and death of one-year-old or older foliage may also be due to winter injury. Symptoms become evident on older needles in spring, while new growth is unaffected. This condition occurs during windy days in winter when the ground is frozen. Because moisture cannot be replenished rapidly enough, needles become dry. Damage may occur mainly on portions of shrubs exposed to prevailing winds.

Recommendations:

- Avoid planting Taxus on sites that are exposed to drying winter winds.
- Water as needed until the ground freezes.

Is the browning confined to the tips of individual branches?

Browning on tips of individual branches can occur when tender new growth is "nipped" by a late spring frost (Figure 5). Damage will be evident shortly after the frost event. Plants usually recover from this problem.

Has the shrub been transplanted recently?

Newly planted trees and shrubs become stressed as a result of being moved from one environment (production site) to another (landscape). Shrubs that die a year or two after transplanting may have succumbed to transplant shock. Following transplanting procedures outlined in the publication, *Transplanting Trees and Shrubs* (ID-80), can help minimize this stress.

Recommendations:

- Purchase plants from a reputable landscape business.
- Do not place the plant any deeper in the soil than its original growing depth in the nursery. Check the color of the bark to know this depth.
- Irrigate shrubs not receiving 1 inch to 2 inches of rainfall per week. Shrubs should be watered at least until they become well established (about two to three years).

The Growing Site

Does the soil remain wet for long periods? Does water from a downspout flow near the shrub?

Taxus is sensitive to excessive soil moisture; affected plants wilt, yellow, and turn brown over a period of several months. Brown, dead roots will be present in the lower portion of the root ball, while a few white living roots may be evident nearest to the soil surface. Bark decays and readily sloughs off deeper roots. This condition, known as "wet feet," can result from any of the following situations:

- Poorly drained soils
- Planted in a low area
- Planted near a downspout in which water drains into the root zone
- Overwatering

Excessive soil moisture also can provide conditions favoring root decay pathogens, which further damage Taxus roots. One such disease is Phytophthora root rot (Figure 1). Foliar symptoms may

not be evident until the following summer when temperatures begin to rise and root mass is not sufficient enough to sustain plants.

Recommendations:

- Avoid planting Taxus in poorly drained soils.
- Amend clay soils with organic matter to help improve drainage prior to planting.
- Raise beds at least 8 inches.
- French drains may be installed to divert excess water.
- Redirect downspouts or use extenders so rainwater does not drain into the plant's root zone.

Are there acid-loving plants growing nearby?

Taxus grows best at a soil pH in the range of 6.0 to 6.5. Plants that prefer an acid soil pH (e.g. 4.5 to 5.5) are considered "acid-loving." Problems occur when Taxus is planted near acid-loving ornamentals, such as andromeda, azalea, laurel, and rhododendron. Fertilizers prepared specifically for this group of plants tend to make the soil more acidic. This may cause nearby Taxus shrubs to turn yellow and die over a period of several months.

Recommendations:

- Avoid planting Taxus in the same plant bed as acid-loving ornamentals.
- Soil should be tested every two to three years to determine whether pH is in the correct range. Contact your local Extension office for information on proper collection of soil for analysis.
- Adjust soil pH, if necessary, per soil-test result recommendations.

Has the shrub been stressed during dry periods?

Prolonged drought can result in symptoms similar to those caused by excess water (wet feet). During dry weather, clay soils may pull away from roots, causing fine fibrous roots to dry out and die. Drought stress can also occur where soils dry rapidly or where roots are located near the soil surface. The use of landscape fabric on the soil surface around woody trees and shrubs encourages shallow rooting that makes plants more susceptible to drought conditions.

Figure 5. Late spring frosts can damage newly emerging shoots.

Recommendation:

- Provide sufficient water as needed throughout the growing season, until the ground freezes.
- Avoid using landscape fabric around woody trees and shrubs. Instead, apply a 1- to 2-inch layer of organic mulch, such as bark or hardwood chips.

Other Possible Stresses

Has there been any construction or digging activity nearby?

Construction activities, including digging holes or ditches, within several feet of the shrub may damage roots that supply water and nutrients to plants. Construction may also compact soil around plants, which may interfere with the ability of the soil to supply needed water and oxygen to root systems. Injured plants yellow, wilt, and can eventually die. Tunnels dug through root zones by chipmunks or moles may also damage roots sufficiently to cause decline.

Recommendations:

- Avoid disturbing soil around the root zone of plants.
- Protect soil from compaction by excluding heavy equipment and excess traffic. Foot traffic (humans or pets) also compacts soils.

Figure 6. Herbicides often cause needle distortion and downward curling.

Have herbicides been used nearby?

The use of lawn weed killers (herbicides) can have a detrimental effect on nearby shrubs when chemicals drift on windy days or when granular herbicides move into root zones through runoff. Plants that come into contact with herbicides may take up active ingredients through leaves or roots. Symptoms caused by exposure to growth regulator herbicides (e.g. 2,4-D or Dicamba) include twisting, distortion, or downward curling of needles (Figure 6).

Recommendations:

- Do not apply herbicides on windy days or where they could be absorbed by Taxus roots.
- Some lawn fertilizers also contain herbicides; check labels before applying near Taxus or other landscape plants.

Have de-icing salts been used nearby?

De-icing salts applied to sidewalks and streets during winter can injure Taxus when products wash into the ground. Symptoms may not be apparent until plant growth begins in spring. Browning of needles is usually most evident on sides of the shrubs nearest to salt applications (Figure 7).

Recommendations:

- Water soil for several hours to leach out accumulated salts.
- As an alternative to salt, use sand to increase traction on sidewalks near Taxus.
- Plant-safe commercial de-icing substitutes are available. Read labels before use.

Do dogs frequently urinate on the affected shrub?

Yellow or brown areas confined to the lower branches of Taxus may be due to dog urine injury. Damage generally occurs in a single area at base of shrubs.

Has soil been added as a fill around the shrub?

The addition of soil on top of the ground prevents roots from receiving adequate supplies of oxygen. As little as 2 inches of soil added on top of root systems may be detrimental to the health of shrubs. However, a 1- to 2-inch layer of mulch is not harmful and may provide beneficial effects to the plant while adding perceived depth to the soil.

Figure 7. Salt injury often occurs on lower branches that face salt applications, such as sidewalks.

Additional Resources

Planting Balled and Burlapped Trees and Shrubs in Your Landscape, ID 91 (University of Kentucky): http://www.ca.uky.edu/agc/pubs/ho/ho91/ho91.pdf.

Taxus Scales, ENTFACT-434 (University of Kentucky): http://www.ca.uky.edu/entomology/entfacts/ef434.asp.

Transplanting Trees and Shrubs, ID-80 (University of Kentucky): http://www.ca.uky.edu/agc/pubs/id/id80/id80.htm.

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Revised 6-2013