

Home Grounds Fact Sheet

Arborvitae Problems

Arborvitae, or “tree of life” is also known as the Northern white cedar. However, it is not a cedar at all. The genus name is *Thuja*. This tree, medium sized and slow growing, has been used extensively to replace the adelgid-ravaged hemlocks of Long Island.

It should be noted that arborvitae has several serious insect and disease problems of its own which are on the rise due to arborvitae’s sudden use for replacement plantings. No more than 5% of a given species should comprise an area’s total plantings.

Integrated Pest Management (IPM)

Considerations

IPM is a common sense approach to pest control and plant care. It employs a number of measures to prevent, control or reduce plant problems. These include using resistant plant varieties, proper plant selection and placement, good aftercare and biological and/or mechanical controls. As a last resort, after all other remedies have been explored, a pesticide* that is least toxic to people and natural predators, can be considered. Prior to using any pesticides, plants should always be monitored for the degree of infestation and a sensible control measure considered.

* A pesticide is a substance that kills, or attempts to kill, a particular pest, e.g. **insecticide**, **fungicide**, **herbicide**, etc.

Insects

Leafminers:

There are four species of leafminers in the genus *Argyresthia* that attack arborvitae. A mixture of all four will be found in an infested tree because the leafminers’ ranges overlap. Small tan moths are present in mid-June to mid-July. Eggs are laid between leaf scales, where the larvae will overwinter. Larvae tunnel into the foliage and feed within the needles. Trees can lose up to 80% of their foliage and still survive. Damage is usually not noticeable until the late winter and early spring of the following year when yellowing and brown-

ing of infested tips can be observed. Dead twigs are easily broken off because they are partially hollowed out.

Control options include many effective larval and pupal parasites. If infestation is light simply prune out infested tips. (**see note A.**)

Bagworms:

Bagworms have a curious life cycle that may be spent primarily in arborvitae on Long Island. The adult female does not resemble a moth or even a living thing—she remains in her pupal bag without eyes, wings, legs, antennae, mouthparts or hair. Males are black with nearly clear wings. After they hatch, they fly to her and mate with her right in the bag where she also deposits her fertilized eggs. When the eggs hatch, the young immediately begin to make their own bags. Because of their limited mobility, a lone host tree may have a huge population in a given season. Principal damage is destruction of foliage by the caterpillars.

Control options include manual removal in fall or winter for light infestations. (**see note A.**)

Arborvitae weevil larvae will do a great deal of damage to feeder roots and strip the bark from older roots. Adults do little lasting damage. Catastrophic destruction of feeder roots will lead to the sudden death of the plant. Larvae are legless and are found from 2-40 cm below the soil surface.

A scale closely related to Juniper scale causes color loss with yellowing or browning and no new growth. The entire plant may appear off color with white to brown scale covers covering infested areas. Female scales have a dark center. Crawlers appear in June.

Gypsy moths will occasionally munch on arborvitae. Information on gypsy moths can be found in Home Grounds Fact Sheet E-1-17.

For information on aphids in arborvitae consult Fact Sheet E-1-1. Fletcher scale information is found in Fact Sheet E-1-31, and spider mite control is addressed in Fact Sheet E-1-20.

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Disease

Arborvitae suffer from a wide variety of fungal diseases, some of which are common on Long Island but not often seen in other parts of NY state.

Pestalotiopsis:

This fungus is commonly associated with dead spots, blotches, tips or margins, with twig dieback or cankers. It is often an opportunistic invader, colonizing tissue already weakened by other pathogens, insects or injuries. In arborvitae, *P. funerea* is associated with damping-off, root and collar rot of seedlings, needle blight, and tip blight. Needle blight is characterized by yellowing and browning which progresses from tips to bases of leaves. Shoot blight, less common, forms at the base of succulent new shoots which respond by wilting and turning brown. When colonized plant tissue is moist, masses of spores in droplets or tongues protrude from under the skin of the leaves. Rain or dew and insects spread the spores. Arborvitae that are stressed by freezing or unfavorable cultural conditions are especially susceptible.

Alternaria:

A fungus also associated with twig die back, but it is unknown whether this is secondary to another infection or injury.

Botrytis blight:

Another twig blight associated with poor nutrition, low light intensity, low temperature, prolonged succulence, aging, or toxic chemicals including air pollution. Symptoms include gray, fuzzy mold. It will most often be seen in humid areas. Spores will rise in a cloud when the diseased area is disturbed.

Cercospora leaf blight:

Oriental arborvitae are susceptible. Progressive browning and loss of foliage begins on low branches close to the main stem and continues until only the very top remains green. Cushion-like stroma develop on dead leaves.

Phomopsis blight:

The usual symptom on American and Oriental arborvitae is tip blight which begins with infection of immature scale leaves or needles. Tiny yellow spots progress to entire shoots faded to light green, and eventually reddish-brown. A gray band marking the point of infection appears at the base of the damage on the shoot. Cankers that will girdle small trees sometimes develop. Cream colored, slimy blobs or tendrils of spores are exuded and spread by rain or wind. The fungus can also persist in dead tissue for up to two years. Incidence is increased by shearing, high fertility and long wet periods.

Kabatina and *Sclerophoma* blights:

Gray lesions similar to *Phomopsis* are seen at the base of blighted lesions on twigs one or more years old. These fungi are incapable of direct penetration and must enter through wounds from weather, insects, or man.

Other

Arborvitae is relatively pollution tolerant with high marks for tolerating fluorides, sulphur dioxide, ozone and exposure to phenoxy herbicides and dicamba. It is also moderately tolerant of salt. Dog urine can sometimes result in injury, as can deer browsing.

** GDD - Growing Degree Days - Home Grounds Fact Sheet E-1-0

note A. Chemical pesticides are available. If you choose to use chemical pesticides, contact your local Cooperative Extension office for specific recommendations.