



Arborvitae *Thuja occidentalis*

The name arborvitae was first given to this tree (*Thuja occidentalis*) by French botanists in the 1500s who brought specimens of this tree back to France making it the first North American species to be introduced to Europe. The name means ‘tree of life’ in Latin. Other common names of arborvitae include northern white-cedar (most widely used), eastern white-cedar, and swamp-cedar. Atlantic white-cedar is a different species (*Chamaecyparis thyoides*). These names all contain a hyphen just before ‘cedar’ because these are not true cedars, which belong to the genus *Cedrus* and are not native to North America but are grown in some areas as ornamentals. This ‘tree of life’ can live for a very long time. The oldest living tree is over 1000 years old (some references say over 1600 yrs.) and there is a record of a dead tree with an estimated age of over 1800 years. The wood is highly resistant to termite injury and rot, like the true cedars.

Connecticut is on the southern edge of arborvitae’s natural range, which extends north to the transition from forest to tundra in Canada and west to Manitoba and south to the southern part of Lake Michigan. There are also scattered populations extending down the Appalachian mountain corridor. Arborvitae is found in a broad range of habitats but the most abundant populations grow in northern swampy areas, although constant ‘wet feet’ are detrimental. They are slow growing and not too tall at maturity commonly 40-50 feet. Record trees are in the range of 100-120 feet. This tree can be found on other sites where competition is low from other trees, including on exposed cliffs, where they may be gnarled, dwarfed and contorted in shape in response to the harsh growing conditions. They will do well in a variety of settings as long as moisture is available, especially for young trees.

Characteristics

Identifying characteristics of this popular landscape tree include flattened, fanlike branches of scale-like needles, upright and small brown cones with 8-12 overlapping scales containing about 8 seeds, and reddish brown, thin, shredded bark. Cones mature in the fall and grow in an upward direction. In natural populations, the tree has an erect shape and may have more than one trunk. There are more than 300 cultivars which are very easy to propagate from cuttings. Selections include tall, erect trees similar to the wild form that make great privacy screens and windbreaks, cultivars with gold or variegated foliage, and dwarf options suitable for gardens or collections. It is hardy in USDA zones 2 through 7.

For additional information, including available varieties of arborvitae, visit the UConn Plant Database page [*Thuja occidentalis*](#).

Planting Guidelines

Arborvitae can tolerate acidic to alkaline soils although pH in the 6.0 to 8.0 is optimum. A [soil test](#) from the UConn Soil and Nutrient Analysis Laboratory is recommended for new plantings. For best growth arborvitae should receive 8 hours of direct sunlight daily. Arborvitae may be planted individually or in rows for privacy hedging. The cultivar ‘Green Giant’ can grow 3-4’ per year once it is established, reaching 40-60’ at maturity. Plants used for hedging should be planted 5-6’

apart to allow for spreading. For in-depth planting instructions please visit our fact sheet [Tree and Shrub Planting Guidelines](#).

Fertilizer Guidelines

Arborvitae should be fertilized in the early spring following soil test recommendations or with a high-nitrogen fertilizer such as a 20-15-15 or a 10-5-5. Apply one pound of fertilizer per 100 square feet of root area.

The preferred method of fertilizing is to spread the fertilizer on the surface over the entire root system of the plant. This allows more of the root system to pick up the nutrients and eliminates zones of high fertilizer concentration which can damage the tender feeder roots. Trees planted in regularly fertilized lawns will probably not require additional fertilizer.

Apply fertilizer prior to a good rainfall. Do not apply fertilizers in the late summer as plants may produce a flush of new growth that will not harden off in time for winter. Do not fertilize drought-stressed plants.

Uses

There are many historical and current uses for this tree, especially farther north where it is abundant. The rot resistant wood is used for fence posts, log cabins and shingles. Other uses for the wood include paneling, barrels and tubs, canoes, and novelties/woodcraft. An oil is extracted from the boughs for use in medicine, cleansers, soaps and perfume. Historical medicinal uses (not recommended outside of a doctor's advice) include an ointment applied to skin for treatment of warts and ringworm and tea from twigs for constipation and headache.

Pests, Insects, and Diseases

In natural populations, animals that feed on arborvitae include [white-tailed deer](#), [red squirrel](#), snowshoe hare, and porcupine. A number of birds also use this tree for shelter.

Few insect and disease problems are important in the wild, but in the landscape, where trees are exposed to additional stresses or problems, some do occur. Pests include the [bagworm](#), arborvitae [leafminer](#), and spruce [spider mites](#). Diseases includes fungal tip or branch dieback. All of these result in browning or dying foliage or branches. Inspect these and other landscape plants frequently to catch any problems early.

Despite good cultural practices, pests and diseases at times may appear. Chemical control should be used only after all other methods have failed. For pesticide information or other questions please call toll free: 877-486-6271.

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