

# American Arborvitae



# American Arborvitae (*Thuja occidentalis*)

## General Description

A small to medium upright tree with a stout, buttressed trunk, native to Minnesota. Compact dwarf cultivars are widely used in landscapes. The tree is hardy in all zones but prefers a semi-moist site. Other common names are White Cedar and Eastern Arborvitae. An uncertain combination of winter conditions may cause infrequent winter injury in the Northern United States. The largest tree in North Dakota is 45 feet tall with a canopy spread of 30 feet.

### Leaves and Buds

Bud Arrangement - Opposite.

Bud Color - Dark green, hard to distinguish from leaves.

Bud Size - 1/8 inch.

Leaf Type and Shape - Simple, scale-like imbricate leaves in four rows, juvenile leaves are short awl-like.

Leaf Surface - Soft, smooth.

Leaf Length - 1/12 inch.

Leaf Width - 1/8 inch.

Leaf Color - Dark green to yellow-green by cultivar. Little fall or winter color change.

### Flowers and Fruits

Flower Type - Monoecious, both male and female rather inconspicuous.

Flower Color - Purplish-brown.

Fruit Type - Cones 1/2 inch long with 8 to 10 scales, seed 1/8 inch long.

Fruit Color - Light brown cones, seed light brown, winged.

### Form

Growth Habit - Narrow, columnar crown at young age, becoming more broadly pyramidal in branch habit.

Texture - Fine, summer and winter.

Crown Height - 15 to 40 feet.

Crown Width - 10 to 20 feet.

Bark Color - Gray, shredding bark. Older bark has shallow fissures in a network of flat ridges.

Root System - Variable, shallow, spread to crown dripline.

## Environmental Requirements

### Soils

Soil Texture - Prefers deep moist loam in well-drained soils, will tolerate sandy soils with high water table.

Soil pH - 6.0 to 8.0. Will not tolerate saline soils.

Windbreak Suitability Group - 1, 1K, 3, 4, 4C.

### Cold Hardiness

USDA Zone 3.

### Water

Prefers moist soils. May not withstand periods of extended drought.

### Light

Partial to full sun. Susceptible to sporadic winter burn and may benefit from shading in January-April when young.

## Uses

### Conservation/Windbreaks

Small conifer for farmstead windbreaks.

### Wildlife

Good for cover, nesting and food.

### Agroforestry Products

Wood - Fence posts, boxes, bowls, cups and furniture.

Medicinal - Decoction has been used for intermittent fevers, rheumatism, dropsy, coughs, toothaches and scurvy. *Thuja* species are a source of thujaplicins, an antibiotic.

### Urban/Recreational

Dwarf, compact cultivars are commonly used in foundation plantings around homes and buildings, and in public landscape areas.

### Cultivated Varieties

Brandon Pyramidal Arborvitae (*Thuja occidentalis* 'Brandon') - Columnar form.

Globe/Woodward Globe Arborvitae (*T. occidentalis* 'Globosa' / 'Woodward Globe')

Hetz Midget Arborvitae (*T. occidentalis* 'Hetz Midget') - 2 to 3½ feet, oval to globe in form. Hardy.

Holmstrup Arborvitae (*T. occidentalis* 'Holmstrup') - Compact pyramidal form.

Pyramidal Arborvitae (*T. occidentalis* 'Fastigiata') - Columnar form.

Siberian Arborvitae (*T. occidentalis* 'Wareana') - Highly recommended for Northern Plains, dense, broadly pyramidal, winterburn resistant, thicker, leathery foliage.

Techny Arborvitae (*T. occidentalis* 'Techny') - Loose, tall-growing, dark green cultivar.

Numerous additional cultivars are available.

### Related Species

Eastern Red-cedar (*Juniperus virginiana*)

Rocky Mountain Juniper (*J. scopulorum*)

### Pests

Spider mites can buildup in hot, dry weather; occasionally bagworm in areas east of the Northern Plains. Extracts of this plant are toxic to certain insect pests.