

Growing Conifers when Coping with Deer

by Richard L. Bitner



IN RECENT TIMES, damage to ornamental plants caused by white-tailed deer (*Odocoileus virginianus*) has become an increasingly widespread problem in some parts of the United States. Once only a rural annoyance, it is now a complaint of suburban gardeners.

A number of circumstances have contributed to the problem. The large predators of deer have disappeared because of the clear-cutting for agriculture which at the same time has created browsing habitat for deer. The deer population is continually losing more of its accustomed haunts with residential subdivisions cropping up everywhere.

To keep deer out of the garden, it has been suggested to place various repellents throughout the garden, including bags of hair, fragrant soaps, various herbal and garlic preparations, and countless widely marketed commercial concoctions. These methods are usually effective only if the deer pressure is light, and, even then, most work only temporarily.

The only dependable remedy is to exclude the deer with tall fences, an expensive and often unsightly solution. Smaller valued specimen plants can be protected with chicken wire cages or a plastic mesh barrier. Dogs, especially

beagles, are often effective provided they are in the garden at night.

Another strategy is planning your garden space by placing susceptible plants only in protected areas, perhaps close to the house or in a fenced yard, or in a ring of less-preferred species or barrier plants.

A deer will eat between 6 and 7 pounds of vegetation a day. Whether a deer targets a particular plant species depends on many factors besides palatability: weather conditions, availability of preferred foods, seasonal factors, snow cover, and movement patterns all play a part.

Damage by deer is often most apparent in early spring when the young tender foliage is emerging from buds.

A plant considered resistant in one part of the country can be ravaged in another. It is advisable to consult plant preference lists generated in the gardener's own locale.

Unfortunately, the damage to conifers is often irreversible if the foliage is chewed to bare wood. Landscaping with deer-resistant species is a more aesthetically satisfying alternative.

Deer Candy

***Taxus* spp.** (yew)

Fortunately, it sprouts from bare wood.

Thuja occidentalis (Eastern arborvitae)

Unfortunately, it does not sprout from bare wood.

Conifers Seldom Browsed by Deer



Abies (fir) foliage and cones

***Abies* spp.** (fir)

Choices for our area: *Abies concolor* 'Candicans', one of the bluest conifers and far superior to the overused Colorado spruce; *Abies koreana* 'Silberlocke', tightly curved-in silvery foliage and purple cones; *Abies nordmanniana*, stately and elegant. For a slow-growing, spreading bright golden yellow cultivar, select 'Golden Spreader'.



Abies nordmanniana 'Golden Spreader'

Landscaping with deer-resistant species is a more aesthetically satisfying alternative.



Cedrus atlantica

***Cedrus* spp. (cedar)**

Of its four species, *Cedrus atlantica* is the hardiest and ‘Glauca’ and ‘Glauca Pendula’ the most popular, though often poorly placed. With global climate change, *Cedrus deodara* is worth trying. Great cultivars include the landscape-sized ‘Karl Fuchs’ and ‘Kashmir’ and, for the home garden, ‘Devinely Blue’, a wide-spreading and flat-topped mound and ‘Feelin Blue’, a dwarf spreading form.



Cedrus deodora ‘Gold Cone’

Xanthocyparis nootkatensis
(Syn: *Chamaecyparis nootkatensis*)
(Alaska-cedar)

‘Green Arrow’ is a narrow form with branches that sweep straight downward, and ‘Pendula’ an elegant weeping landscape tree.

Chamaecyparis obtusa (hinoki false cypress)

Enjoyed for its rich dark green foliage that is held in short flat sprays, there is a cultivar for every possible design from a small container to a 50’ tree. Rather adaptable to heat and drought



Cedrus atlantica ‘Glauca Pendula’



Cedrus deodora ‘Pygmaea’

conditions. ‘Crippsii’ is a slow-growing accent with ferny golden yellow foliage; ‘Nana Gracilis’ is a universally admired selection that reaches only 3’.

Chamaecyparis thyoides (Atlantic white-cedar)

A wet-tolerant native not often used in designed gardens.

Cryptomeria japonica (Japanese-cedar)

Appreciated for its graceful habit, shade tolerance, and beautiful foliage. ‘Black Dragon’ is an upright cone; ‘Globosa Nana’ broadly rounded; and best choices for larger specimens are ‘Rein’s Dense Jade’ and ‘Yoshino’.

× ***Cupressocyparis leylandii*** (Leyland cypress)

Versatile, adaptable salt-tolerant and very fast-growing for a quick screen or



Chamaecyparis obtusa ‘Nana Gracilis’ at Chanticleer

hedging. Must be planted in the spring. ‘Naylor’s Blue’ is true to its name.

Thuja plicata (giant arborvitae)

Handsome for the home landscape with luxuriant wide-sweeping boughs. Adaptable but grows best with cooler summers and mild, wet winters. Good for hedging with its single stem. ‘Green Giant’ is a vigorous hybrid.

Tsuga canadensis (hemlock)

A Pennsylvania native valued for its fine texture and shade-tolerance, but the species is not recommended because of unrelenting demise from woolly adelgid. Dwarf choices that could be sprayed by the home gardener include ‘Bennett’, ‘Cole’s Prostrate’, ‘Everitt’s Golden’, and ‘Pendula’.

Conifers Almost Never Browsed by Deer

***Cephalotaxus* spp.** (plum-yew)

A shade-tolerant understory shrub. *Cephalotaxus harringtonia* ‘Fastigiata’ is markedly upright, formal in appearance, and slow-growing; *C. h.* ‘Korean Gold’ is similar with yellow new growth; *C. h.* ‘Prostrata’ is low-growing, spreading to 3–6’.



Cryptomeria japonica ‘Globosa Nana’



Chamaecyparis obtusa ‘Templehof’ at the Scott Arboretum



Picea orientalis at the Barnes Foundation Arboretum

Chamaecyparis pisifera (Sawara-cypress)

Many cultivars are commonly available. ‘Boulevard’, dense, soft silver-blue foliage, benefits from shearing. ‘Filifera Aurea’, ‘Gold Spangle’, ‘Lemon Thread’, ‘Golden Mop’, and others have golden-yellow pendulous, stringlike foliage.

Cunninghamia lanceolata (China-fir)

A collector’s tree for the larger landscape, can look ragged but sprouts from old wood and can be sheared and grown as a shrub. ‘Glaucua’ is silvery blue and hardy.

Juniperus spp. (juniper)

Countless cultivars available for public and private gardens. Almost all have prickly foliage and are undemanding in cultivation provided they have full sun and good drainage.

Exceptional selections: *J. horizontalis* ‘Mother Lode’, slow-growing gold carpet; *J. virginiana* ‘Corcorcor’ Emerald Sentinel™, narrow and con-



Chamaecyparis obtusa ‘Nana Gracilis’

ical, remains rich green all year, reaches 25–30’; ‘Grey Owl’ soft silver-gray foliage, abundant cones, wide-spreading shrub.

Microbiota decussata (Siberian cypress)

Very cold hardy with wide-spreading, fine-textured, lacy foliage in flat sprays. Tolerates high shade. Nice for slopes, underused.



Picea orientalis along the Connecticut Turnpike

Picea spp. (spruce), except *P. orientalis* (oriental spruce)

Noteworthy choice: *Picea omorika* ‘Pendula Bruns’



Picea pungens ‘Egyptian Pyramid’

Pinus spp. (pine)

Pseudotsuga menziesii (Douglas-fir)



Richard Bitner is the author of the best-selling *Timber Press* books *Conifers for Gardens* An Illustrated Encyclopedia (2007) and *Pocket Guide to Conifers* (2010). This article is an excerpt from his newly released *Timber Press* book *Designing with Conifers The Best Choices for Year-round Interest in Your Garden*.

Ed Note: The pictures in this article are courtesy of the author. Clipart provided by www.freeclipartnow.com. For a full-color version of this article, go to the HPS/MAG web site, www.hardyplant.org.

HPS/MAG will be selling Richard's books at the Woody Plant Conference at Swarthmore College, July 15.

History of Deer in Pennsylvania

The Early Days

Prior to European settlement, deer provided a staple for Native Americans who inhabited present-day Pennsylvania. Hunting by native peoples and predation by large carnivores kept deer populations in balance with what the habitat could support.

European settlement brought removal of large carnivores, land clearing for agriculture, and market and subsistence hunting that nearly extirpated deer from the state. The conservation efforts of the early 1900s following the complete removal of our forests gave birth to the acquisition of the state forest system. With minimal deer browsing pressure, the land regenerated vigorously, turning into rapidly growing trees and shrubs. At the same time, deer were being reintroduced across the state amid this sea of highly nutritious forage, and their populations expanded exponentially.

An Expanding Population

Early in the 20th century deer management was designed to protect does (female deer) and maximize population growth. By the 1930s, the deer herd had grown to the point of causing severe habitat damage across large portions of the northern range in Pennsylvania. Deer populations in many of these forests peaked in the 1970s and remained out of balance with forest habitat conditions for many years after.

Impact of Too Many Deer

By the end of the 1900s and the early 2000s, as a result of over-abundant deer populations, the forest understory across vast areas of the state had been reduced to a diminished group of species not preferred by deer, such as beech, striped maple, hay-scented fern, mountain laurel, and huckleberry. Fewer deer are able to survive in this denuded habitat condition.

Tree species are also limited by deer. Recent federal data shows that only about a half of forest plots studied in northern Pennsylvania have enough new growth to replace the existing forest. Studies also show that overabundant deer populations reduce the populations of other wildlife species—both game and non-game—by limiting or eliminating their desired habitat.

The Future

To ensure a productive, healthy forest for today and into the future, deer populations must be maintained in balance with habitat conditions.

PA Deer Population Estimates*

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| 2006 | 94,131 |
| 2007 | 63,864 |
| 2008 | 68,861 |
| 2009 | 73,798 |
| 2010 | 68,974 |

* Using PASAK model. From www.dcnr.pa.state.us & www.pgc.pa.state.us.