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DWARF GREENSPIKE

**A New Arborvitae
for Landscape
Plantings**



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Dwarf Greenspike

A New Arborvitae For Landscape Planting

By Dr. Robert P. Ealy

Dwarf Greenspike is a new arborvitae developed by the Oklahoma Agricultural Experiment Station. Foliage of Dwarf Greenspike is juniper-like in appearance, but is soft to the touch and not unpleasant to handle. The shrub grows slowly and has a compact, symmetrical, pyramidal shape. It develops into plants of very nice shape without pruning and the textural effect of the unusual foliage is quite desirable.

This new variety fills a need in the landscaping field for plants that do not get too big too soon in restricted planting sites such as planter boxes, foundation plantings, under windows, etc. The elimination or even reduction of pruning required of most Oriental Arborvitae and other evergreens is an important factor.

Origin and History

Dwarf Greenspike was developed from a mutant branch found on a common arborvitae on the Oklahoma State University campus. About 1940, the author, then a student at the university, noticed an unusual type of foliage growth on one branch of an Oriental arborvitae (*Thuja orientalis* L.) growing on the campus. This mutant branch was still there in 1946 when he returned to the campus as a staff member. It had grown very slowly and was very much different in character than the foliage of the rest of the plant. It was pointed out from time to time to horticulture classes as an example of a "budsport", or vegetative mutant.

In 1949, a few scions were removed from the mutant branch and grafted on potted seedling arborvitae in the greenhouse in order to observe the growth characteristics. All grafts united and were transplanted to the open nursery. Later, cuttings were rooted in the greenhouse and transplanted outdoors.



Dwarf Greenspike develops compact, pleasing form without pruning. Its dwarf growth habit makes it ideal where small, slow-growing plants are required.



Oriental Arborvitae, on right, is type of plant from which Dwarf Greenspike, left, was developed. Mutant branch furnished first scions.

Performance

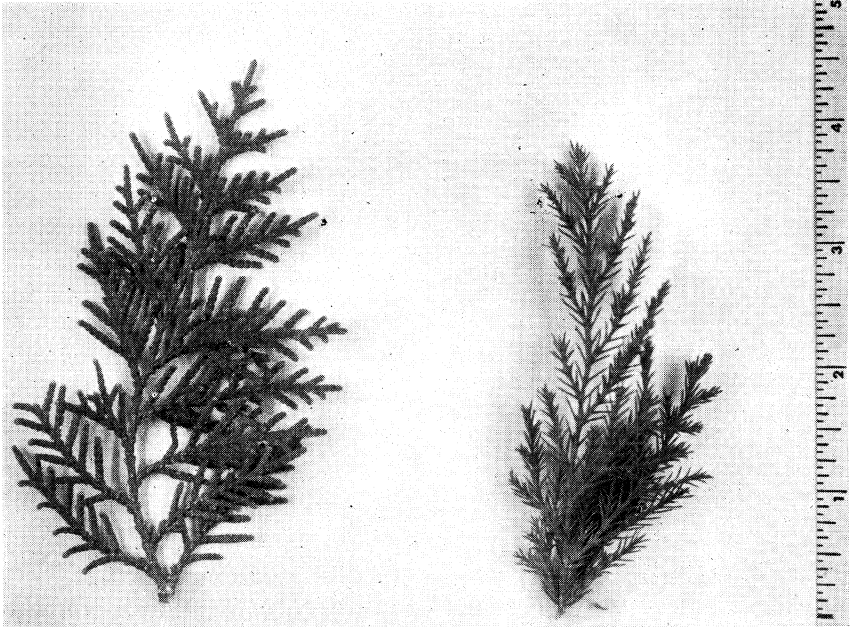
A large nursery planting of Dwarf Greenspike was made in 1952 and is now eight years old. These plants have survived without fertilization or other special care. They have never been pruned, but most of them have developed a compact, pleasing natural form. The average height is about $3\frac{1}{2}$ feet. In another planting now 11 years old, plant growth (height and width) has average only about 40 percent of that of *Thuja orientalis* L.

The new variety has not been susceptible to blight or red spider. Only two insects have been noted on these plants—aphids and bagworms. Both were easily controlled by spraying.

The area of adaptation has not been experimentally determined; but it seems safe to assume it will be the same as for the parent, Oriental Arborvitae (*Thuja orientalis* L.), which is adapted throughout most of the United States south of St. Louis, Mo. Dwarf Greenspike is well adapted to the climatic and edaphic conditions of Oklahoma, having been under observation in various locations since 1949 (11 years). Some of these plants were damaged by fluctuating temperatures during the

spring of 1955. A warm spell in early March recorded a 90° F. high March 10 in Stillwater followed by an 11° F. low March 22. Thousands of plants of many species including *Thuja orientalis* were damaged all over Oklahoma. Damage to these mutants was no greater than to ordinary arborvitae.

Plants have been successfully propagated by both grafting and cuttings. They can be grafted on seedling arborvitae rootstocks.



Dwarf Greenspike, on right, shows juniper-like appearance but is soft to the touch and not unpleasant to handle. Oriental Arborvitae (*Thuja orientalis* L.) on left.

Botanical Description

Dwarf Greenspike has a dwarf, compact, pyramidal form. It has acicular leaves on slender, ascending branches arising from a trunk branching near the base. The leaves are a strong yellowish green color. The winter sun may cause a temporary purplish cast on the exposed side as is the case with many narrow leaved evergreens. All the leaves are aciculate to linear lanceolate, apexes are acute to acuminate, with the bases accumbent to the stem. The upper surface is impressed, all surfaces are glabrous.

The leaves are opposite and four ranked (decussate), 4 to 5 mm in length and divergent. This foliage is soft to the touch and not irritating to the skin as are many junipers. In 11 years of observation no fruit has been seen on these plants.