

[54] DOUGLAS-FIR TREE "TORQUIS" VARIETY  
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[57] ABSTRACT  
A new and distinct variety of Douglas-fir, *Pseudotsuga  
menziesii*, variety "Torquis", an intervarietal hybrid of  
coastal variety (*Pseudotsuga menziesii* var. *menziesii*)  
and inland variety (*Pseudotsuga menziesii* var. *glauca*),  
having generally upright growth with a curving, twist-  
ing, non-directional, at times corkscrew-like pattern to  
stem and branches, and smaller than average size, while  
retaining the foliage color and foliage character of a  
normal Douglas-fir, was discovered in a Douglas-fir test  
planting on a site near Grangeville, Id., and was asexu-  
ally reproduced by rooting and grafting.

3 Drawing Sheets

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This invention relates to a new and distinct variety of  
Douglas-fir (*Pseudotsuga menziesii*), referred to as the  
variety "Torquis".  
The "Torquis" variety was discovered growing in a  
Douglas-fir test planting established by the Genetics  
and Pest Resistance Work Unit of the Intermountain  
Research Station, Forest Service, U.S. Department of  
Agriculture, Moscow, Id. The test planting was estab-  
lished in 1975 and 1976 on a site near Grangeville, Id.,  
at Latitude 45°58' Longitude 115°53', on U.S. Forest  
Service land managed by the Nez Perce National For-  
est.  
The test planting was established to assess the perfor-  
mance of Douglas-fir intervarietal hybrids and includes  
coastal variety (*Pseudotsuga menziesii* var. *menziesii*),  
inland variety (*Pseudotsuga menziesii* var. *glauca*), and  
hybrids developed from control-pollinated crosses on  
inland variety trees using pollen from coastal variety  
trees.  
During an evaluation of survival and field perfor-  
mance in 1984, one of the hybrid families was found to  
include several individuals of a different growth habit.  
One tree, the "Torquis" mother tree, was outstanding  
and quite unique in growth habit, foliage color and size.  
The primary features of the new and distinct "Tor-  
quis" variety that distinguish it from related known  
varieties are:  
1. a growth habit in which the tree grows generally  
upright with branches regularly borne and normal in  
length, but with the stem and all branches having a  
curving, twisting, non-directional, at times corkscrew-  
like pattern, the stem and branches having this pattern  
from beginning of elongation to maturity;  
2. an 8½ foot height at age 17 that is small compared  
to the 14 to 15 foot average height of a normal Douglas-  
fir tree of the same age; and,  
3. foliage color and character that remains the same  
as that of the foliage of a normal Douglas-fir.

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The "Torquis" variety expresses the twisting growth  
habit and smaller size while retaining the foliage color,  
foliage character and vigor of a normal, healthy Dou-  
glas-fir tree.  
The "Torquis" mother tree was asexually reproduced  
by rooting branch cuttings in 1984. Additional repro-  
duction was done in 1985 and 1986 by grafting and in  
1987 by rooting cuttings.  
All asexual reproduction was done in Moscow, Id.,  
and all such asexual reproduction has resulted in indi-  
viduals possessing the same characteristics as the Tor-  
quis mother tree. Rooted cuttings retain the same  
growth habit, color and vigor, and subsequent grafts of  
material taken from the rooted cuttings also retain the  
same growth habit, color and vigor.  
FIG. 1 illustrates the "Torquis" mother tree with its  
unique growth habit. The mother tree is shown at age  
17 with its height at about 8½ feet.  
FIG. 2 is a graft of "Torquis" onto a normal Douglas-  
fir seedling, showing the normal growth habit of the  
lower root stock branches compared to the Torquis top.  
FIG. 3 is a 1988 photograph of a rooted cutting that  
was rooted in 1984.  
The following is a detailed description of the new and  
distinct variety, with color comparisons based on the  
Munsell color system for plant tissues:  
Parentage: Inland Douglas-fir (*Pseudotsuga menziesii*  
var. *glauca*)×Coastal Douglas-fir (*Pseudotsuga men-  
ziesii* var. *menziesii*); the individual parents were not  
identified.  
Type: Evergreen Conifer.  
Location where mother tree grown: Nez Perce Na-  
tional Forest, near Grangeville, Id., Latitude 45°58',  
Longitude 115°53'.  
Size: Mother tree is about 8½ feet tall at age 17, which is  
about 60% of the average height of a normal Dou-

Plant 7,553

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glas-fir tree of the same age; two four-year-old rooted cuttings are about 18 inches tall.  
Growth habit: Generally upright, with branches regularly borne and normal in length, but with the stem and all branches having a curving, twisting, non-directional, at times corkscrew-like pattern from the beginning of elongation to maturity.  
Growth rate: Grafts on three-year-old rootstocks have been averaging about eight inches of new growth per year for two years.  
Bark characteristics and color: The color of mature bark is 2.5 GY 6/2, and the color of young bark (in June) is 2.5 GY 6/10.  
Dormant bud color: 2.5 YR 4/4 to 4/8.  
Bud characteristics: Same as a normal Douglas-fir.  
Fruits: None observed.

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Foliage characteristics: Needle-shaped, evergreen, rigid, from 2½ to 4½ cm long.  
Foliage color: Dark green, like foliage of a normal Douglas-fir, the color of the needles being 5 GY 3/4 when mature and 5 GY 6/4 when young (in June).  
Cones: None observed.  
Seeds: None observed.  
Propagation: Asexual reproduction by rooting and grafting of branch tips.  
I claim:  
1. A new and distinct variety of Douglas-fir, *Pseudotsuga menziesii*, substantially as shown herein and described, characterized particularly by generally upright growth with a curving, twisting, non-directional, at times corkscrew-like pattern to stem and branches, and smaller than average size, while retaining the foliage color and foliage character of a normal Douglas-fir.  
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FIG. 1



FIG. 2



FIG. 3