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LIN TABER: Can true sea oats be grown inland?

WILL CORLEY: We've had no problem in the Piedmont.

BRYSON JAMES: How does the time of cutting back affect winter hardiness?

WILL CORLEY: We cut back as soon as the plants are dormant and our survival rate is good.

TOM WALLACE: We have trouble ordering and then getting the correct cultivars. What do you suggest?

WILL CORLEY: There is much confusion in the nomenclature. Of course, it would be best to see the plants or their picture.

LEYLAND CYPRESS PROPAGATION

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Leyland cypress (× *Cupressocyparis leylandii*) is an intergeneric hybrid between *Cupressus macrocarpa* and *Chamaecyparis nootkatensis*. Several clones exist and the most common and available ones are listed in Table 1 (1,3,4,5,6,7,8). These clones may be the fastest growing conifers in the world (8). In full sun and well-drained soils, 3 to 5 ft. of growth per year is possible (1,5). The columnar form and rapid growth make it a good plant for hedges where fast screening is desired. Old Leyland cypress trees in Europe are 95 to 100 ft. tall but trees may reach only ½ to ⅔ that height in the Southeastern U.S. (3,6,8). It is reported to be hardy to zone 5 (9). Leyland cypress apparently has few insect or disease problems although bag worms have been observed on them; trees apparently do not grow well in the San Francisco Bay Area due to *Phomopsis* canker and a borer associated with the cankers.

Table 1. × *Cupressocyparis leylandii* (1888, 1911, 1940). (*Cupressus macrocarpa* × *Chamaecyparis nootkatensis*) clones.

'Haggerston Grey'	'Green Spire'
'Leighton Green'	'Stapehill'
'Naylor's Blue'	'Silver Dust'
'Castlewellan'	'Hyde Hall'
'Robinson's Gold'	

PROPAGATION

Propagation of all clones is by cuttings, although they can be grafted to Monterey cypress (5). As Leyland cypress becomes better known in the U.S. by landscape architects and the general public, more nurseryman are becoming interested in propagating and growing it. However, some nurserymen have experienced difficulty in rooting cuttings. Propagation tips are listed in Appendix 1.

In Table 2 results of a rooting study are given. Cuttings were taken in January and placed in a medium of equal volumes of peat and perlite. Results were evaluated in May. Wounding the cuttings by removing the bark to the xylem 1 in. in length and ⅛ in. in width on opposite sides of the base of the stem improved rooting and root-zone diameter in comparison with nonwounded cuttings. Although the application of rooting hormones did not statistically improve rooting, rooting percentage and root-zone diameter tended to be greater with hormone treatments.

Table 2. Effect of rooting hormones on rooting percentage and root-zone diameter of × *Cupressocyparis leylandii*[z].

Treatment	Rooting percentage	Root-zone diameter (cm)
No wound; no hormone	67b[y]	2.3d
Wounded only	84ab	4.0c
Hormex 8 (0.8% IBA)	100a	5.4ab
Rootone 10 (0.4% NAA)	92a	4.2abc
2,4,5-TP (1.0%)	100a	5.6a
K-IBA (0.5%)	100a	4.2abc
Chloromone	92a	3.2cd

[z] Each value represents the mean of 12 cuttings.

[y] Mean separation within columns by Duncan's multiple range test; numbers with same letter are not significantly different at the 5% level

In various studies cuttings have been propagated in equal volumes of peat + perlite, peat + sand, pine bark + peat + sand, pine bark + hardwood bark, and in pine bark and in hardwood bark alone. A recently completed study on the effect of particle size on rooting response indicated no differences in media having from 11 to 43% air space.

From these results rooting response in nearly any commonly used rooting medium should provide adequate air space and moisture retention for successful rooting. Bottom heat of approximately 72°F and intermittent mist appear to be helpful in rooting cuttings; however, rooting may require up to 5 months to develop an adequate root system for transplanting.

Semi-hardwood to hardwood cuttings have been propagated in our studies in March, July, August, October, November,

and January, and cuttings can probably be rooted any month of the year. The one factor which appears to be most important in rooting Leyland cypress is to take large cuttings 8 to 12 inches or larger in length and to take at least 1 inch of dark red mature wood with the cutting.

Many times a great deal of callus tissue develops before root emergence occurs. From observations small cuttings often appear to form callus but are very slow to root or may not root at all.

TRANSPLANTING AND GROWING

A critical point in producing Leyland cypress trees occurs at transplanting. Few roots are formed per cutting and they must be carefully handled during transplanting. Cuttings are slow to become established in containers, therefore care must be taken after transplanting to reduce water loss. Shading or perhaps misting cuttings for approximately 2 weeks after transplanting seems to reduce cutting death. Laying cheese cloth over the transplanted cuttings would be beneficial if shading, wind breaks, or misting is not available.

In North Carolina State University media and nutritional studies, Leyland cypress has been grown in a variety of pine bark and hardwood bark media at several fertility levels (2). Media with a large percentage of fine particles, such as 3:1 (by vol) hardwood bark to sand, tend to reduce growth when compared to combinations of hardwood bark and pine bark, or pine bark alone. Best growth occurred in one study in a 2:2:1 (by vol) hardwood bark: pine bark: sand, when compared to 4:1 hardwood bark: sand, or 4:1 pine bark: sand. Growth has not been affected by pH between 5.2 to 7.0. High fertility levels produce greatest growth. Rooted cuttings were potted in 1, 2, and 3 gal. containers and fertilized with 200, 400, 600, and 800 ppm N supplied by NH_4NO_3 during two growing seasons. During the first season, 400 to 600 ppm N appeared optimum in all three container sizes and no difference in growth due to container size was observed. However, plants continued to grow during the winter and by the beginning of the second growing season container size had become a factor. The 3-gal. container at 600 to 800 ppm N produced the largest plants. The 2-gal plants were not significantly larger than 1-gal. container plants. These results indicate that for a 1 season production-market cycle, a 1-gal. container is adequate; however, a container no smaller than a 3-gal. container should be used to grow a 2-season plant.

CONCLUSIONS

Leyland cypress is a worthy plant to be considered for nursery production. In the landscape it may be the best plant available for creating a screen in open and well-drained areas. It apparently has few insect and disease problems. Selection of large cuttings with mature wood at the base and use of a rooting hormone has been successful for propagation. A cutting taken in November and potted into a 1-gal. container in April can attain an adequate size for sale by fall.

Appendix 1. Propagation Tips for Leyland cypress:

1. Use large cuttings with at least 1 in. of dark-red wood at base.
2. Wound cuttings.
3. Use a rooting hormone; 5000 ppm IBA is a good choice.
4. Use nearly any porous rooting medium — avoid a soggy medium.
5. Allow up to 5 months to root.
6. Bottom heat is helpful.
7. Use semi-hardwood or hardwood cuttings taken at any season.

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