

Turkish Journal of Agriculture and Forestry

Turkish Journal

of

Agriculture and Forestry

**Fifth Year Performance of Morphologically Graded Cedrus libani Seedlings in
the Central Anatolia Region of Turkey**

Akkin SEMERCI

Central Anatolia Forestry Research Institute, P.K. 24, 06501 Bahçelievler,
Ankara - TURKEY

 [Keywords](#)
 [Authors](#)



agric@tubitak.gov.tr

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Abstract: The effects of morphological characteristics on seedling performance were studied in Cedrus libani seedlings at 3 locations in the Central Anatolia region of Turkey. Some 2+0 seedlings were morphologically graded according to height and root collar diameter sizes. The seedlings were divided into 5 height categories and each height category was divided into small and large root collar diameter subcategories. The morphologically graded seedlings were planted at 3 locations. After 5 growing seasons, the mean survival of the seedlings planted in Ankara, Eskişehir and Konya locations was 84.4%, 77.9% and 54.7%, respectively. The mean height of seedlings planted in Ankara, Eskişehir and Konya was 78.5, 51.8 and 48.7 cm, respectively. Survival and height growth of graded seedlings showed significant differences among the locations, which might be a reflection of differences in climatic and physiographic conditions among the locations. The initial height and root collar diameter of seedlings had no effect on survival. Only root collar diameter had a significant effect on height growth. Initial height differences among different sized stocks were still significant after 5 years, but had not expanded. Our results suggest that initial seedling morphology is not a good predictor of field survival but root collar diameter is a good indicator of the growth potential of C. libani seedlings after planting. This study indicated that the physiological characteristics of seedlings have a strong influence on seedling survival potential.

Key Words: Cedrus libani, Seedling quality, Morphological characteristic, Seedling performance

Turk. J. Agric. For., **29**, (2005), 483-491.

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