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
Effects of Some Soil Properties on the Growth of Hybrid Poplar in the Terme-
Gölarđı Region of Turkey

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Abstract: In this study, the effects of some physical and chemical soil properties on the growth of hybrid poplar were investigated in the Terme-Gölarđı region where a poor growth of trees was observed. Soil samples were taken from both poor and good growth areas. Chemical soil properties such as pH, exchangeable Na⁺, K⁺, Ca⁺⁺ and Mg⁺⁺ content, CEC, phosphorus content and salinity were determined. Physical soil properties such as field capacity, permanent wilting point, water holding capacity and available water were measured. Ground water depth was measured in the field during soil sampling. Clay and Mg⁺⁺ content and pH of the soils showed a significantly negative correlation while phosphorus and sand content of the soils had a positive correlation with the growth of hybrid poplar. Mg⁺⁺, K⁺, and ground water depth explained 43% of the variation of mean annual height growth. The results indicated that soil conditions had a strong influence on the growth of hybrid poplar in the Terme-Gölarđı region.

Key Words: Hybrid poplar, soil characteristics, mean annual height growth, plantation

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