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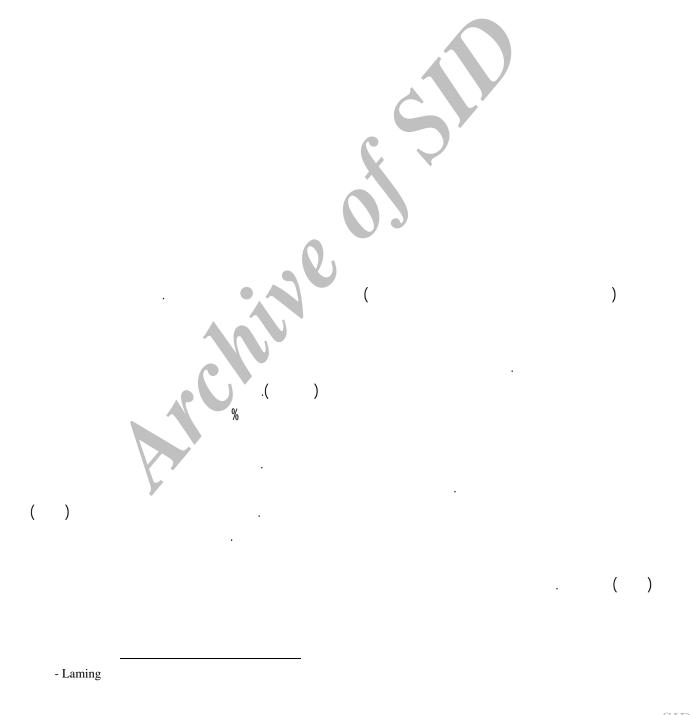
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## The Effects of Provenance and Age Variations on Wood Properties of Eastern Cottonwood

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## **Abstract**

To investigate the effects of provenance and age variations on wood properties of eastern cottonwood (Clone 77/51), disks were cut at the breast height of 12 eastern cottonwood trees, collected from Gillan (Safrabasteh) and Mazandaran (Chamestan) research projects by a random sampling method.

Average growth rate of Chamestan trees was the highest because of better conditions of the provenance (e.g., soil, temperature, etc.). Age caused more variation in fiber dimensions. The highest fiber length mean was 0.995 mm for 18 years old Safrabasteh trees. Optimum age for tree harvesting of this clone was found to be 9-10 years by statistical analysis method. Variation in tree age had statistically significant effect on oven dry density, but it did not have significant effect on basic density. Provenance variation did not bring about significant differences in chemical composition, except in cellulose content. The results also showed that variation in tree age had more effects on wood characteristics of this clone than variation in provenance.

**Keywords:** Eastern cottonwood, Gillan, Mazandaran, Age variations effects, Fiber dimensions, Wood density, Chemical composition.

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