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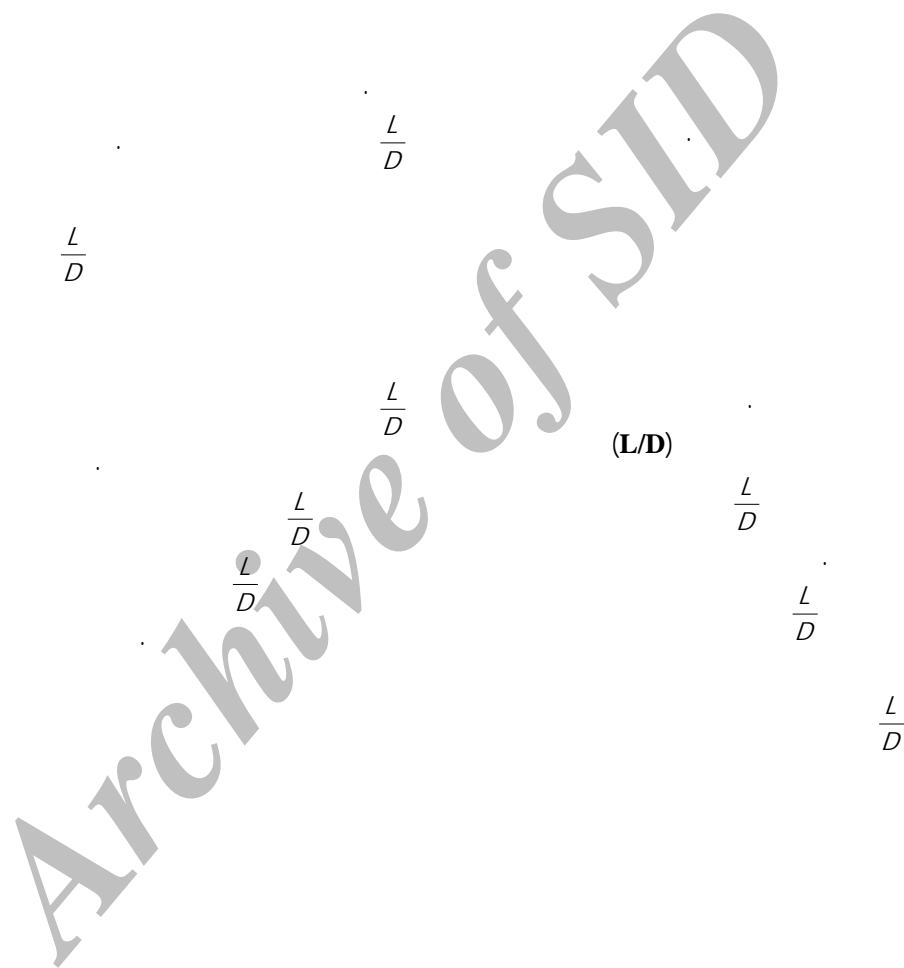
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- 5- Bao, F.C., Z.H. Jiang, X.M. Jiang, XX.Lu. Lu, X.Q. Luo & S.Y. Zhange, 1999. Differences in wood properties between juvenile wood and mature wood in 10 species grown in China, *Woods Science and Technology*, 35(2001): 363-373, Springer-Verlag, 2001.
- 6-Gartner, B.L., H. Lei & M.R. Milota, 1996. Variation in anatomy and specific gravity of wood within and between trees of Red alder, *Wood and Fiber Science*, 29 (1): 10-20.
- 7-Kollmann, F.F.P & W.A. Cote, 1968. Principles of wood science and technology, vol. 1: Solid wood, Springer-Verlag, NewYork, 592PP.
- 8-Lindstrom, H., 1996. Fiber length, tracheid diameter and latewood percentage in Norway spruce: Development from pith outwards, *Wood and Fiber Science*, 29 (1): 21-34.
- 9-Panshin, A.J. & C.De Zeeuw, 1980. Textbook of wood technology, 4th edition, New York: MC Graw Hill Inc, 722 pp.
- 10-Tsoumis, G., 1991. Science and technology of wood, Van Nostrand Reinhold, NewYork, 494 pp.
- 11-Zobel, B.J. & J.P. Van Buijtenen, 1989. Wood variation: It's causes and control, Springer-Verlag, Berlin, Germany. 363 pp.

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Variation of the Physical & Anatomical Properties of *Fagus orientalis* (wood & bark) in Siahkal Forest

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K. Doosthoseini²

Abstract

The physical and anatomical properties of *Fagus orientalis* (wood and bark) and their variations in three heights and radial direction in the trunk of tree were analysed in this study. Three *Fagus orientalis* trees were cut down at “Shenrood forest” in west of Lahijan (Siahkal). From each tree, 3 disks from the bottom, middle and top of the tree trunk were selected. The Specimens were prepared from these disks to measure the main properties, such as moisture content, dry specific gravity, total shrinkage and fiber length, fiber efficiency, L/D ratio. Then, data from 3 heights and radial direction in the trunk were statistically analysed. The results show that there was little change in the moisture content of wood radial direction, but it increased from bottom to top of the tree when the three heights were compared. The specific gravity and total volumetric shrinkage of wood in radial direction decreased from pith to bark and from bottom to top of the tree whereas there were little change in fiber length, fiber efficiency and L/D ratio of wood. There were also little change in moisture content, dry specific gravity, volumetric shrinkage and fiber length of bark in longitudinal direction of tree trunk, but fiber efficiency of the bark in the middle part and its L/D ratio in the lower part of tree trunk were higher than other parts.

Keywords: *Fagus orientalis*, Moisture content, Dry specific gravity, Volumetric shrinkage, Fiber length, Fiber efficiency, L/D ratio, Radial direction, Longitudinal direction, Disk.

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