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**ANNUAL RING PROPERTIES OF (CAMIYANI BLACK PINE) *Pinus nigra*
Arnold var.paliasiana GROWN IN TURKEY**

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The distribution areas of Camiyani Black Pine (*Pinus nigra* Arn. var. *paliasiana*), a site stand, in Turkey is the Western Blacksea Region This relict pine species grows predominantly at four sites totally on 30000 hectares in Yenice - Karabuk Because of its outstanding properties and rarity it is under protection since 1986 by General Directorate of Forestry. In practice, only collapsed and broken individuals subjected to lumber production (5000-6000 m/year) (1).

The most important property of this species is its straight and uniform stem and evident - large heartwood. For these reasons, it has been highly requested by the furniture industry. Physical wood properties of this species have not been investigated yet In this study, annual ring - latewood widths and the percentages of latewood over annual ring widths were determined

Five trees used as research material obtained from Yenice region, Bakraz site, division number 104. Measured ages of trees used were 222, 225, 230, 231, 235 years successively. The test specimens were taken at 1.30 m stem height and prepared with 3 cm widths in the direction of pith to bark at cross-section. Annual ring and latewood widths were measured by means of a microscope with 1/100 mm precision.

Average, maximum and minimum annual ring widths measured were 1.390 mm, 3.588 mm and 0.220 mm respectively. Maximum annual ring width was found at first eleven years. Aiterwards, annual ring width decreases rapidly up to 100 years. Between 100 - 180 years of ages ring diminution is much more slowly. But of the ages of 180 - 200 years an increase was observed. Minimum annual ring width was found at the level of 230 years ages.

Average, maximum and minimum latewood widths measured were 0.547 mm, 1.344 mm and 0.02 mm respectively (Figure 1).

Average, maximum and minimum latewood percentages measured were 40.85 %, 55.94 % and 7.69% respectively. 77% of annual rings contains more than 40% latewood. Generally, latewood rates increase with the decrease of annual ring width and higher values are obtained between 100 - 200 ages having annual ring width about 1 mm (Figure 2).

Annual ring width and latewood ratios give an opinion about physical and mechanical properties of wood. According to DIN 4074 timber standards for softwoods, timbers having annual rings of more than 4 mm over half of the cross-section are not accepted. Woods having narrower annual rings and higher latewood ratios are preferred in softwoods. Hence, this requests in higher specific gravity, and higher mechanical strengths.

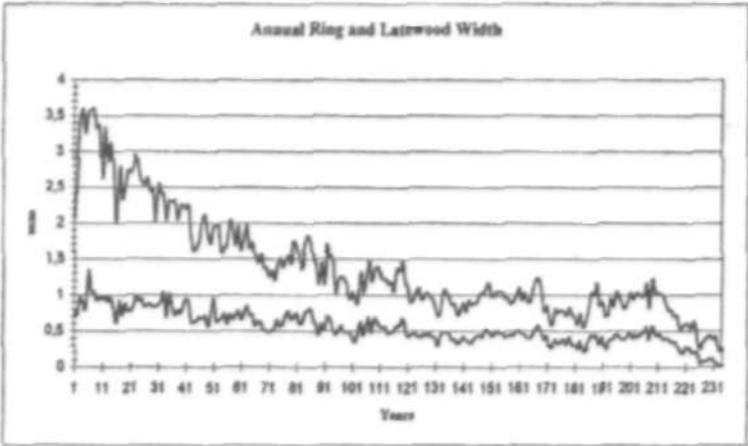


Figure 1. Annual ring and latewood width.

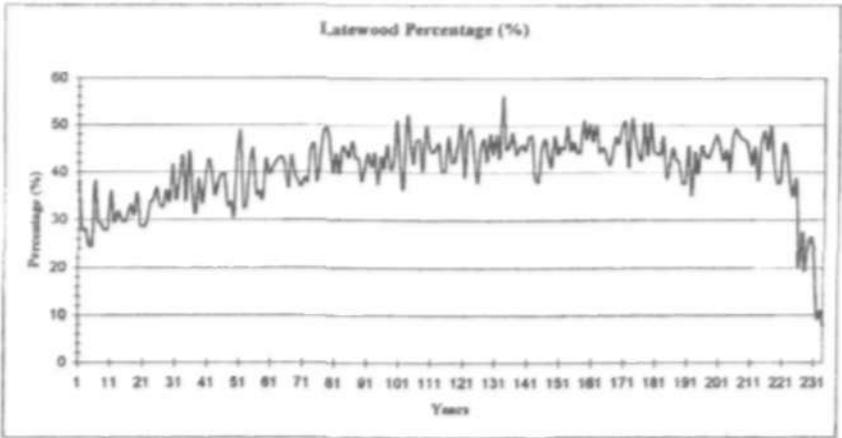


Figure 2. Latewood percentage.

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