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## Dynamics of heartwood formation and axial and radial distribution of sapwood and heartwood in stems of European larch (*Larix decidua* Mill.)

M. Nawrot, W. Pazdrowski, M. Szymański

<https://doi.org/10.17221/30/2008-JFS>

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The study was an attempt to determine the dynamics of heartwood formation and the radial and axial distribution of sapwood and heartwood in stems of European larch (*Larix decidua* Mill.) representing the dominant stand according to Kraft. Correlations were found between the rate of heartwood formation and the social class of tree position in the stand, the age of trees, forest site type and height of trees. Moreover, radial and axial variation was observed in the distribution of analyzed wood zones depending on the height of measurement, the age of cambium and the dimensions of the analyzed tree. Results were analyzed statistically, which facilitated an assessment of the relation between the dynamics of heartwood formation and age, the social class of tree position in the community as well as dimensions, i.e. the thickness of the sapwood ring and the radius of heartwood cylinder. The greatest strength of the relation was determined between the ray of the heartwood and the stem radius ( $R^2 = 0.98$ ), with cambium age and number of heartwood rings ( $R^2 = 0.93$ ). A much smaller relation was determined between the width of the sapwood ring and the stem radius ( $R^2 = 0.13$ ).

**Keywords:**

sapwood; heartwood; dynamics of heartwood formation; social class of tree position; European larch

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