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BASIC DENSITY OF SOFTWOOD BROADLEAVED SPECIES WITHIN UKRAINIAN POLISSIA

V. Blyshchyk[1]**,** Candidate of Agricultural Sciences
(blysh@nubip.edu.ua),
I. Lakyda[1]**,** Candidate of Agricultural Sciences
(*ivan.lalyda@nubip.edu.ua),*
E. Janeczko[2], Doktor habilitowany (*ejaneczko@wl.sggw.pl)*
[1]National University of Life and Environmental Sciences of Ukraine
[2]Warsaw University of Life Sciences-SGGW, Poland

Basic density of wood (bark) is a ratio of dry weight of a sample to its fresh volume. Wood (bark) density has a direct relationship with the main volume indicators as well as it is an important variable to explain differences between species.

The aim of this study is to analyze basic density of trees of softwood broadleaved species of Ukraine. Silver birch, European alder and European aspen are the most widespread tree species in Ukrainian Polissia (nature's zone of Ukraine).

Mean basic density of stem wood varies from 406 (aspen) to 512 $kg\cdot(m^3)^{-1}$ (birch). Birch trees also present the higher stem bark and stem over bark density values than other softwood broadleaved species. A similar pattern was observed for basic density of branches. The highest value of basic density of branch wood (912 $kg\cdot(m^3)^{-1}$) was obtained for birch as well as the lowest value (309 $kg\cdot(m^3)^{-1}$). Birch and aspen had almost the same mean values (504 and 501 $kg\cdot(m^3)^{-1}$ respectively) although the density values for birch were distributed throughout a wider range. Birch and aspen also had higher mean value of basic density of stem bark than basic wood density or stem over bark. Whereas alder had the highest value of basic density of stem wood (443 $kg\cdot(m^3)^{-1}$).

The analysis of the observations indicated that alder and aspen had basic density of branch wood higher than density of branch bark and branches over bark. In general, stem density is less variable than density of branches. Basic density of alder and aspen branches is higher than density of their stems, while basic density of stem wood of birch exceeds the value for branches.