MODELING CONVERSION RATIOS OF THE COMPONENTS OF PHYTOMASS OF ASH STANDS IN RIGHT-BANK FOREST-STEPPE OF UKRAINE

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Using processed materials temporary sample plots investigated the correlation of the major the indicators taxali of ash stands in right-Bank Forest-steppe of Ukraine with the components of the phytomass. The developed mathematical model of the conversion coefficients of the components of phytomass of forest stands of ash for the regional assessment the deposition and accumulation of carbon in the region.

The estimation of the accumulated carbon supplies and their streams in afforestations at regional level is conducted with the aim of decision of row of ecological, social and economic problems. During the last years methodolodies of regional estimation of supplies of the accumulated carbon were clearly formed in forest arrays: map-graphics; conversion; method models.

One of effective and accessible in practical application methods of regional estimation of forest ecosystems there is conversion stock in the cortex in phytomass of main forest breeds. Necessary condition of this method is a presence of information about forest inventory (stock in the cortex of wood) and their count, conversion in phytomass is executed by means of coefficients. The basis of this technique - physical dependence volume material from his mass and density.

By the first stage for the regional estimation of depositing of carbon afforestations are collection of information and forming of bases given for TTA with determination of supplies of accumulated phytomass.

For the design of conversion coefficients of components of phytomass of ash ordinary in the conditions of Right-bank Forest-steppe of Ukraine the used materials 21(temporal trial areas) TTA, laid in the region of research the author of (15 TTA) and research workers of departments of forest management and forest fixing the price and forest measurement of National University of life and environmental Sciences of Ukraine, that is worked out on methodology of Lakida P. I.

For the mathematical design of convertion coefficients of components of of phytomass ash of ordinary in a region research direct dependence is used:

$$Rv = of\ f\ (A, B, P) \quad (1)$$

where: Rv is convertion coefficients of components of phytomass of stand;
f (A, B, P) are functions of fixing the price indexes of stand (age, bonitet, relative plenitude).

For the receipt of comparable indices of data the calculation of components of phytomass of stands was conducted after bringing a weekend over of data of TTA to 10 units in composition planting. For comfort of mathematical account the indexes of indexes of bonitet were coded in a digital kind (I^e - 1, I^d - 2, I^c - 3, I^b - 4, I^a - 5, I - 6).

All components of phitomass have moderate dependence with plenitude, except for weak, but near to moderate, dependence phitjmass of bark of barrel. There is weak cross-correlation dependence of components of phytomass from bonitet. Phytomass of leaves has moderate dependence with plenitude of stands, weak with a bonitet and reverse with age, by a diameter and in high stands.

Presence sufficient with authenticity 0,95 correlation dependence components of phytomass of ash stands with their age and plenitude in Right-bank to Forest-steppe of Ukraine gives an opportunity to conduct the mathematical design of corresponding conversion coefficients of components.

On the basis of the educed correlation dependence of components of phitomass of ash stands on their fixing the price indexes the mathematical models of convertion coefficients:

$$R_{v\,(st+k)} = 9{,}578 \cdot A^{0,\,734} \cdot P^{0,\,993} - (R2=0{,}83) \quad (2)$$

$$R_{v\,(g)} = 1{,}344 \cdot A^{0,\,887} \cdot P^{1,\,156} - (R2=0{,}70) \quad (3)$$

that describe them with the greatest level of approximation are worked out in the region of research. The worked out models can be applied for the regional estimation of phitomass and deposited carbon for Right-bank Forest-steppe of Ukraine.