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PARTICULARITIES OF GROWING AND SPRUCE STANDS PHYTOMASS IN SOUTH URAL HIGHLAND (ON THE EXAMPLE OF MALII IREMEL HILL)

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Abstract

There were described associations of trees heights and fractions of above and underground biomass in air-dry condition with their diameters, distribution of peculiarities of trees quantity upon their relative height on different altitudinal levels within 1210 and 1360 m a. s. l. There were determined actual reserves of the tree stands. The differences in the growth and structure of the stands linked with altitude were detected. The average diameter and average height of the stands regularly decrease with altitude increasing. The coefficient of variation of the heights varies within 17,2-38,2%, but diameter - 26,3-66,8%. The average tree age greatly decreases with altitude increasing from 36 years on the profile top upon 95 years at the bottom. Exists the natural reduction of the forest density and crowding level of the stands with altitude increasing. On top-levels relationship of spruce tree height and diameter during all growing is expressed with direct line, but on lower levels this relationship curvilinear. This possibly explains that on top-levels stands are strongly rarefied and as the altitude decreases the forest density and crowding level of the stands are increase and, as effect, competitive relations between trees are increase too. With the lifting uphill the nature of the height change on step of the diameter and category of the heights are change. The maximum amount of the trees on all levels have a relative height from 41 before 60. There are found multi-stem trees in the investigation area, the amount of which increases with altitude increasing. The total phytomass of the tree stands decreases with the lifting uphill from 182,3 tons/ha at the bottom levels to 3,4 tons/ha - on the top levels. In the investigation area reduction of this factor on each meter of the altitude is 1,19 tons/ha. In the total stands biomass share of the root systems is 20,6-30,0%.

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