SILVICULTURAL PROPERTIES OF TECHNOSOLS (BORODINO COAL MINE)

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The aim of this work was to evaluate the silvicultural properties of technosols of Borodino coal mine waste dump allotted for forest restoration.

These studies are carried out on the territory of the Borodino coal mine. The object of research is artificial plantations of *Pinus sylvestris* formed in 2006.

Conclusion about reforestation properties of soils is made on the basis of comprehensive analysis of both the main and actual properties of young soils and indicator and diagnostic parameters of the state of emerging plant communities.

According to information received, during the period of research, the value of the apical growth of pine crops increased from 24 to 56 cm, and the growth rate of voltage dropped from 24 to 7 indicating that the steady growth of cultures in a weak competitive relations. During the reporting period, phytomass crops reached 63 t/ha, one-third of this amount falls on the stem wood in the crust, the same needles on the relative proportion of skeletal branches and roots – 25 and 15 %, respectively. The majority of the pine root system is concentrated in the upper layer of 0-10 cm.

In terms of growth, taxation data and structure of the biomass of a culture of pine on sailings are not inferior to artificial plantations of similar age growing in natural soils of Nazarovsky district (Shugaley, 1996) and South Angarsk district (Ogievskii, 1962) of the Krasnoyarsk Territory.

Studied technosols are neutral (pH = 6.7-7), phosphorus content is low – 4-12 mg/kg (Chirikov), the upper layer (0-10 cm) is well supplied with mineral nitrogen 20-39 mg/kg under forest vegetation and 22-69 mg/kg under the grass. Probably, sufficiently high carbon concentration (1.5-2.9 %) in young soil profile is enormous due to the presence of oxidized coal and carbonaceous dust but not because of humus development process.

Positive Forecast for silvicultural properties of studied dumps seems to be possible for us but premature due to the lack of long-term field observations of the growth of crops within the Borodino coal mine.

References

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