

Original article

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Morphophysiological Features of *Pinus sylvestris* L. in Artificial Plants on Dredge Dump after Gold Mining

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Abstract. The results of studying the morphophysiological features of *Pinus sylvestris* L. in artificial plantations on the dredge dump of the Uvalnoye alluvial gold deposit are presented. It is shown that under the conditions of the dump there was a decrease in morphological parameters, such as tree height, annual growth, trunk diameter and needle length. The forest stand of *P. sylvestris* L. that forms on the dump belongs to the Va class of bonitet. The main anatomical reactions of needles in the conditions of the dump are presented: a decrease in the number of resin canals with an increase in their diameter, a decrease in the diameter of the central cylinder and the area of the mesoderm. It was revealed that a significant decrease in the content of total nitrogen and green pigments in the needles of *P. sylvestris* L. was observed on the dredge dump compared to the control habitat. It is noted that the main limiting factors in the conditions of the dump are the low water-holding capacity of the substrate, the lack of calcium, magnesium and organic carbon.

Key words: scotch pine, alluvial gold mining, technogenic substrate, reforestation, adaptive responses

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