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Analysis of Scots pine forest-seed zoning in Siberia

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Scots pine (Pinus sylvestris L.) is the major forest forming species of woody plants of boreal zone in Russia. In Siberia pine plantations are very vulnerable because of rarity of mast years, increase of anthropogenic and natural disturbances (cuttings, man-caused influences, natural anomalies, forest fires) during last 30 years. As a result of it the forest regeneration of pine plantations is the main task of forest management of country.
In forest management of Russia there are rules of seed transfer of main woody species. They are all summarized in special publication «Forest-seed zoning of main forest forming species in USSR» (1982). This document nowadays needs in more precise definition in connection with accumulation of new information about results of study of provenance trial established in 1976-1977.
It is well known that right choice of Scots pine geographical provenance for plantation establishment in specific forest conditions allows to raise productivity of plantation up to 20-30%. In this connection provenance trial of Scots pine established in south taiga of Central Siberia (Boguchany forestry of Krasnoyarsk krai) on two different soils from 84 climatic ecotypes are the unique genetic collection for objective assessment of geographical variability of inherited features of Scots pine.
The study of such forestry factors as survival of trees, growth intensity, stem volume and quality, stock and quality of wood, morphological features of assimilation apparatus and generative organs, resistance to fungal pathogens of pine climatypes in such unique genetic collection allowed to select best climatypes and recommend some modifications of forest-seed zoning of Scots pine in Siberia.