

Lodgepole Pine (*Pinus Contorta* Loud. var. *latifolia* S. Wats.) Growth in the Republic of Komi

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The article investigates the growth of lodgepole pine (*Pinus contorta* Loud. var. *latifolia* S.Wats) in the conditions of middle taiga of the Komi Republic. It deals with the research conducted on two experimental sites, created in 1993 in a cowberry and lichen pine forest types in the territory of Storozhevsky forestry (lesnichestvo). Two-year-old lodgepole pine seedlings grown from seeds collected in the conditions of northern Canada were planted on each site. Particular attention is paid to the growth of lodgepole pine (*Pinus contorta* Loud. var. *latifolia* S.Wats) compared to Scots pine (*Pinus sylvestris* L.) in the same growing conditions.

The article addresses the issues of lodgepole pine cultures stability to snow and wind loads, increased damage of the apical bud resulting with high incidence of bifurcated trunks [1, 2]. The authors note that these damages do not have a mass character; the proportion of lodgepole pine stems with defects is insignificant.

The main part of the article covers growth course analysis of lodgepole pine in diameter, height and stem volume, which shows that, under the same growing conditions, this pine significantly exceeds the growth of Scotch pine to all listed indicators. The authors provide growth course graphics of lodgepole pine compared to Scots pine, which confirm the conclusions. The tables of growth course of young Scots pine stands of artificial origin depending on forest types have helped studying the growth of Scots pine [3]. As calculations show, the wood stock of 25-year-old lodgepole pine per hectare has been determined between 113 and 163 m³ / ha in different growing conditions. The wood stock of Scots pine has been determined as 28 m³ / ha (lichen pine forest type) and 112 m³ / ha (cowberry pine forest type) under similar conditions.

Finally, they say that the study of experimental lodgepole pine cultures of Storozhevsky lesnichestvo in the Komi Republic had demonstrated their high safety and good condition, indicating the proper selection of ecotypes of this

species for planting. *Pinus contorta* significantly exceeds Scots pine in growth in stem volume at the same growing conditions.

References

1. Martinsson O. Root development and stability of lodgepole pine / O. Martinsson // *Contortatallen – Vart tredje barrträdz Sveriges skogvårdsförbunds Tidskrift*. – № 1-2. – 1989. – P. 91–95.
2. Norgen, O. Growth differences between *Pinus sylvestris* and *Pinus contorta* : dissertation / O. Norgen. – Umea : Swedish University of agricultural Sciences, 1995. – 58 p.
3. *Lesotaksacionnyj spravocnyh po severo-vostoku evropejskoj chasti Rossijskoj federacii: normativnye materialy dlja Neneckogo avtonomnogo okruga, Arhangel'skoj, Vologodskoj oblastej i Respubliki Komi* / sost.: G. S. Vojnov, N. P. Chuprov, S. V. Jaroslavcev, S. V. Torhov, A. P. Shusharin. – Arhangel'sk : OAO IPP Pravda Severa, 2012. – S. 84–85, 104, 179.