

Original article

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SSR-Analysis of *Pinus sylvestris* Plus Trees from Mari El Republic

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Abstract. The paper discusses the assessing issues of the genetic diversity of the *Pinus Sylvestris* plus gene pool with the use of the SSR markers. It gives the data on the level of genetic diversity and sample differentiation of plus trees grown on sandy (A_2), wet sandy (A_3), and clay-loam soils (C_2 u C_3). The author identified 32 alleles in total out of 71 plus trees from Mari El Republic. The author also elicits that the allele frequencies at the SPAG7.14, Psy157, and PtTX3107 loci differ significantly in the group of plus trees from sandy and clay-loam soils. Thus, reliable differences in the allele frequencies of plus trees specifies a diverse genetic structure of cenopopulations for the genotypes (individuals) under study. The paper gives the values of the main indicators of genetic diversity for five microsatellite loci, which allows for conclusion that the level of diversity in the compared groups of plus trees taken from different soil conditions is relatively close. A relatively low level of expected heterozygosis ($H_o = 0.35-0.37$) and a significant deficit of heterozygotes ($F = 0.48-0.49$) are typical for all samples of plus trees. An analysis of the genetic variability structure based on Wright statistics shows a rather high genetic subdivision of tree samples from different soil conditions. Finally, the paper concludes that 97.2 % of all genetic variability falls on the intragroup component.

Key words: *Pinus sylvestris* L., plus trees, genetic diversity, microsatellites.

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