

# Resistance, Condition and Growth Betula Family Birch Species in the arboretums Pushkino (VNIILM) and Ivanteevka, Moscow region

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VNIILM arboretum was established in Pushkino, Moscow region in 1960–1968 on former essential oil crop collective farm lands. In its territory in close to mixed pinewood growing conditions the following birch species: (*Betula pendula* Ehrh.), (*B. pubescens* Ehrh.), (*B. Ermani* Cham.), (*B. pendula* var *carelica*), (*B. papyrifera* March.) (*B. lutea* Micx.), (*B. lenta* L.), Yablokov pubescent wart rooted type, (*B. daurica* Pall.), figured (hybrid of Carelian and weeping ones) totally 10 species were planted. 2 species black and cherry ones out of these 10 perished as of 01.05.1980. The following birch species: weeping, pubescent, stone, 1 Casrelian low stem birch tree, 1 paper birch tree and figured namely 5 species and 1 hybrid survived by the studies in 2018–2019.

In the dendrological park established mainly in 1938–1940 in Ivanteevka outskirts 10 birch species were planted and 4 of them (*Betula populifolia* March.), (*B. platyphylia* Sukacz.), (*B. mandsyurica*(Rgl) and (*B. japonica* Sleb.) were not planted in VNIILM arboretum. Most of the planted birches including silver, yellow, paper, cherry, pubescent, American white, Asian white, various patterns of carnelian survived in this arboretum without free attendance. 2 birch species Manchurian and black perished by studies time. It was experimentally found that soil density under surveyed trees was under 1,2 g/cm<sup>3</sup>, while in VNIILM arboretum under survived birches and in perished species area this indicator was higher by 0,2–0,4 g/cm<sup>3</sup> compared to Ivanteevka. Higher soil density likely affected growing conditions and triggered decline of the abovementioned species. Light factor that is primary for this species played a negative role. The declined birch species got under canopy of other fast growing hardwood species.