

VIABILITY OF *PICEA PUNGENS* F. *GLAUCA* IN THE KURTIN TYPE OF KRIVYI RIH PLANTATIONS

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A greater amount of natural dendroflora is not sufficiently resistant to technogenic conditions, therefore, the use of the introduced species has been started, in particular conifers. Usage of the representatives of the genus *Picea* Dietr. in the greening of the city gives a possibility to achieve the effect of permanent decorativeness in different seasons, they also have high phytoncide activity and intensive absorption of harmful gases. The most popular representatives of the genus *Picea* Dietr in Kryviy Rih, is the species *P. pungens* f. *glauca*, which grows in different types of planting: single, routine, group and curtain. The last type of planting is widely used by the «green building» during the landscaping of the city. However, it is visually noteworthy that the trees of *P. pungens* f. *glauca* that grow on the outside of the curtains are better than the trees that are located in their central part, which are more suppressed. The purpose of the work was to assess the viability of *P. pungens* f. *glauca* in the curtain types of planting in the conditions of Kryviy Rih.

To assess viability in the central part of the city, Pokrovsky district, near the roads 14 curtains with *P. pungens* f. *glauca* of different area (21–200 m²), planting schemes, number of plants (11–46 individuals) and age (15–35 years) were investigated (total number of trees: 284). In trees of all plantations, the diameter of the trunk was measured at the level of 1.3 m, tree height, projection area and crown volume according to the standard method (Andreeva, 2002) and the state of health determined on the 5-point scale of V.T. Yarmishko (2002). The average indicators of a vital state were converted into percentages, taking into account the distance between the trees and the road. The estimated age of conifers was determined by the number of mutants (Mashinsky, 1978). Statistical data processing was carried out using a program package MS EXCEL, the significance of the differences was determined by the t-criterion of student.

It was found out that plants in the curtains were planted at a different, usually small distance, relative to each other (0,5–5 m), while according to the rules of the minimum planting for them should be from 4–8 m (Mashinsky, 1978). The vitality of the tree depends on the correct choice of the area available per tree. When over-densely placed plants are mutually oppressive, the lower shaded needles fall, trees slow down the development of the root system, and there is a struggle for light, moisture and nutrients. In addition, all the trees (14 curtains) are exposed to toxic exhaust gases of vehicles, therefore trees become less attractive aesthetically.

Especially, the reduction of biometric characteristics is noticeable in the center of the curtain, because the trees there show poor growth, with a thin barrel, less complicated, with a deformed crown, some of them are old dead-tree. Accordingly, the average values of the height of the trees *P. pungens* f. *glauca* decreases from the outside of the curtain (7.3–11 m) to the middle (3.4–8.8 m). It is obvious that the average diameter of the trunk of the planting *P. pungens* f. *glauca*. The trunk diameter outside the curtain is larger and ranges from 14.4 cm to 27.1 cm, and in the center from 9.5–19.3 cm. In plants with larger area available, there is an increase in their diameter of the trunk and height. *P. pungens* f. *glauca* trees that grow outside the curtain were relatively higher than planted in the center by 19.2%–53.4% and by the diameter of the trunk by 34%–44.2%.

An assessment was also made of the living conditions of the curtain trees. It has been established that plants *P. pungens* f. *glauca* that grow outside the curtains have better average indicators vital state (75.3%) than trees growing in the center of curtain (47.6%).

Thus, for greening in Kryviy Rih it is pertinently to use *P. pungens* f. *glauca* plants, but their decorative effect, without additional agrotechnical measures (irrigation) and without complying with the rules of planting begins to fade from the age of 35 years.

Key words: *P. pungens* f. *Glauca*, Viability, Curtains, Biometric Characteristics