

UDC 630*232

**ON OPTIMAL DEPTH OF PLANTING PINE SEEDLINGS AT THEIR LANDING
ON THE SANDY SOILS IN THE GREEN ZONE OF KYIV**

D. Brovko, Master of Horticulture

O. Brovko, PhD in Biology

F. Brovko, Doctor of Agricultural Sciences

It is shown that on sandy soils Scots pine seedlings take root at 83-96%. In this case, the highest survival rate (96 %) was observed in the seedlings which were sealed trunks in sand to a depth of 8 cm with simultaneous local application of a landing slot 0.5 kg loess loam. In the same version, 11-year-old pine seedlings had dendrometric indicators on 56,0-92,3% higher and accumulated phytomass at 552.2% more than seedlings, grown at checkout.

Scots pine, sand, survival, seedlings, saplings, phytomass.

On sandy soils that formed as a result of human activities within the green zone of Kyiv, the survival rate of seedlings of pine in some way affects the depth of wrapping them in the propagating slot. Thus, planting seedlings with depth of seal root collar to a depth of 2 cm, as recommended for zonal soils of Polissia, provides survival rate of seedlings of pine at 82.8 %, and in the case of local slot propagating in addition loess loam (0.5 kg) survival rate of seedlings growing at 4 % and is 86.2 %. It should be noted that a significant impact on the survival rate of seedlings of pine was observed in the variant where seedlings immerse deepest (8 cm), and propagating cranny during planting of loess-like loam. In this embodiment, seedling survival rate was 16 % higher than in controls and was 96.2 %, higher than the standard rates for the region zonal soil studies (91 %).

Local entering of loam in combination with different depth of planting seedlings on the second year after the crops on the sands significantly affects their dendrometric characteristics. In particular, in embodiments where the propagating crannies of loam in pine seedlings formed larger number of skeletal roots (4-6) than in controls (3 pcs.). And they were on 8-15 % longer than the sands where seedlings grown without making loam ($29,9 \pm 1,35$ cm). The measures affected also on the number and the length of the needle in the 2-year

seedlings of pine. Thus, the plants that grew under control there were $267 \pm 14,6$ needles, and their average length was 2.6 cm. When making local loam amount needles increased by 27 % and their length increased by 8 %. The largest number of needles ($404 \pm 32,4$), while their average length of 3.9 cm was observed in 2-year seedlings of pine trees, which were planted to a depth of 5 cm. In the embodiment where seedlings immersed in sand to a depth of 8 cm, lower needles (in sand), shrunken, hence the number of seedlings on seedlings was 9 % lower than the control and was $243 \pm 14,6$ pc.

However, needles remaining were 42% longer than controls, indicating that the formation of the growing plants for better water regime. Height and diameter of seedlings dominated the controls on 17,4-36,9 % and 10,0-43,3 % respectively. In pine seedlings grown in the background making local loam as root mass (at 3,3-41,0 %) and weight of needles (for 29,8-113,8 %) was higher than in seedlings grown under control and the maximum accumulation of phytomass ($5,01 \pm 0,38$ g) was observed in seedlings, which immersed to a depth of 5 cm.

The dendrometric characteristics of seedlings in 11-year-old plantations were at 56,0-92,3 % higher than the control, in version of the deepest wrapping (8 cm). However, it should be noted that when grown on sand, in seedlings breached due to natural features on laying generative buds. In particular, the plants, the lateral shoots were observed apical buds without lateral buds, lateral buds with one or two lateral buds and shoots of plants in the central pine with 5 lateral buds, some are lagging behind in development, which indicates the presence of physiological disturbances in the flow y plant processes. It should also be noted that the central buds shoots of 11-year-old pine seedlings that were cultured on sandy soils, there was abundant selection of resin, which is a visual display of their affection by *Pissodes pini* L. and indicates a significant weakening of seedlings growing on sandy soils. The seedlings at control accumulated the minimum mass ($39,14 \pm 1,36$ g) in 11-year-old plantations. Significantly higher values of biomass ($232,11 \pm 4,02$ g and $259,17 \pm 11,97$ g) were observed in versions, where plants landed a hollow sand to 5 and 8 cm.

So, to provide regulatory survival rate (91-96 %) pine seedlings, improve dendrometric characteristics and performance (at 40-92 %) and to increase the accumulation of phytomass (by 360-624 %) on the sandy soils in the researching region may be due to deep planting them in sand (5, 8 cm) with simultaneous introduction to local propagating crannies of loess loam (0.5 kg).