Comparison of morphological and physiological parameters of the planting material of Norway spruce (Picea abies [L.] Karst.) from intensive nursery technologies with current bareroot plants

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High quality of planting material is an essential prerequisite for successful artificial forest regeneration. We carried out a detailed investigation aimed at differences between plantable bareroot and container plants of Norway spruce (Picea abies [L.] Karst.). Based on the results of this experiment, there exist marked differences in basic morphological traits between bareroot plants and plugs. The largest differences were observed in root collar diameter and root system volume. Differences in physiological quality (nutrient content, function of assimilatory organs) were also great. The results document that container seedlings of Norway spruce produced by intensive technology in controlled conditions of plastic greenhouses have very good predispositions for successful growth in difficult mountain conditions.

Keywords:

plugs; bareroot transplants; containerized seedlings; morphological and physiological quality; Norway spruce

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