
Abstract

Forest reproductive material (FRM) is essential for silvicultural activities. Climate change impacts site suitability for certain species, complicating the planning and execution of activities. High-quality FRM, especially seedlings adapted to local conditions, is crucial for planting to be effective. Seedling quality can be determined by various attributes, but the most important attributes are those that enable the survival and growth of forest seedlings in current and future site conditions. A review of current publications shows a lack of recent scientific studies and active research on the qualitative properties of forest seedlings. Additionally, there is insufficient legal framework for assessing seedling quality based on their morphological and physiological attributes when marketed for most species. The aim of this paper is I) to determine the morphological and physiological attributes of forest seedlings that affect their quality, and II) to provide general recommendations for nursery production of forest seedlings in the face of climate change. The research determined that the quality of forest seedlings requires the integration of morphological and physiological attributes, emphasizing the most important ones for the survival and growth of seedlings in the field. For each attribute, its significance for seedling survival and growth in the field is described, along with the determination method. Nursery production programs and general recommendations for producing forest seedlings due to climate changes are emphasized. While difficult to predict, threats are inevitable; therefore, a quality production program is more essential than ever.

Keywords: morphological attributes, physiological attributes, nursery production, quality of forest seedlings