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Bioecological Peculiarities of Introduction of Pallas Pine Format on the Territory of the Centrally Black Soil Region of Russia

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This article examines biological and environmental responses of introducing the Pallas Pine (Pinus pallasiana Lamb.) in the Russian Black Soil Region. Specifically, it explores the Pallas Pine's adaptation patterns, which are not well studied on the territory of the Black Soil Region.

The article provides an overview of the research conducted by the authors over a number of years to study the introduction of this type of pines in the region. The topic presents a scientific interest in light of the challenges encountered while growing the Common Pine, especially on sandy soils, reclaimed lands or formerly farmlands, which are known to see the appearance of the pine fungus when the trees' differentiation begins. The pine fungus participates in the single evolutionary strategy of the geobiocoenosis – creating sustainability of the tree stock.

It is the Crimean Pine which is most suitable for the environmental conditions where multi-layered, mixed types of trees grow resistant to the any pathological factors.

There are forests in the Black Soil Region with biologically sustainable Crimean Pine that can be used for selection to identify most adaptive specimen.

There are numerous forests, parks and other woodlands across almost the entire Black Soil Region where the Pallas Pine grows [1].

The main section of the article provides a summary of the Pallas Pine identification and studies carried out in different parts of the region: in Glushkovsky unit of the Rylsky forestry (Kursk Region), Korotoyak unit of the Ostrogozhsk forestry (Voronezh) as well as on the territory of the former Oblivskiy forestry VNUALMII (Rostov region).

The author refers to the data acquired while studying the balanced indicators of the water regime of different types of pines in the Black Soil Region, which confirm the adaptation patterns of the Pallas Pine to such conditions similar to those of the Common Pine.

The articles presents a comparative analysis of such taxation indicators as the average diameter and average height of the Pallas Pine in the area of study with the growth rate of similar woodstock in the natural environment [2].

The author makes an important conclusion at the end: the Pallas Pine has an adaptation potential to assimilation in the favourable environment similar to that of the Common Pine. This means that the identified woodstock of the Pallas Pine, which has been through tough natural selection, presents a valuable source of genetic material resistant to unfavourable environmental factors, borers and diseases.

References

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