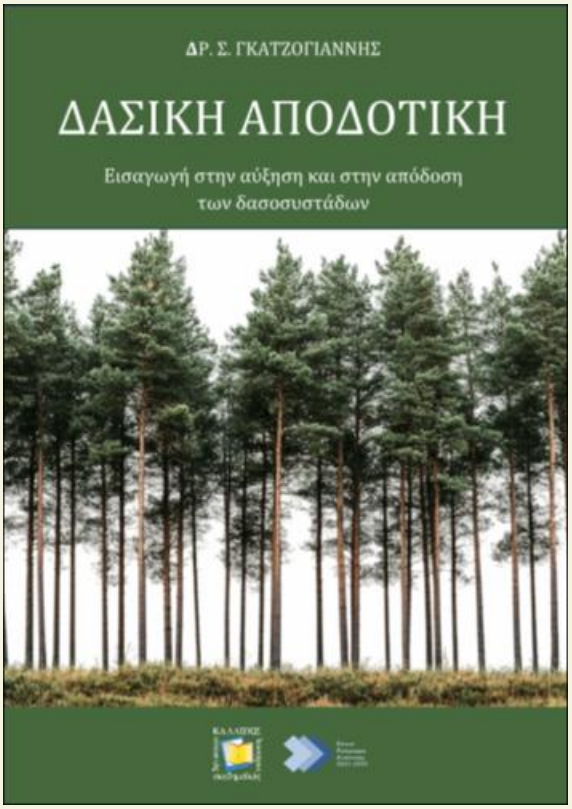

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Abstract

The present book aims to address two fundamental needs of Greek forestry. The first need concerns the lack of a practical handbook that interprets the phenomena of growth and yield in forest stands of the country's important forestry species, while the second pertains to the absence of a practical guide or model for applying existing forest productivity standards/aids in the forest management decision-making process. These needs become apparent when one attempts to design interventions in forests to achieve production or even preservation objectives, where three basic issues arise. The first involves understanding the yield potential of a forest, the second concerns the ability to predict its future development, and the third relates to the modern requirement to monitor the impacts of every human intervention on the forest ecosystem. In all three cases, a necessary precondition is the knowledge of the mechanism of growth and yield in forest stands, as well as the ability to quantitatively approach and analyse this mechanism. Although Forest Yield Science has not until now received the attention it deserves in our country, it nevertheless constitutes a cornerstone for the entire edifice of forest scientific knowledge, since it broadly underpins almost all scientific disciplines -such as silviculture and forest mensuration, forest management and economics, forest hydrology, and so on. This manual is addressed to the practitioners of forestry, those responsible for the management and protection of forest ecosystems, who need to access, on the one hand, the basic knowledge of Forest Yield Science and, on the other hand, to utilise the tools provided by this science, which are essential for making rational forest management decisions. It is also intended for every ecologist who focuses on forest ecosystems, since the knowledge and aids provided offer the possibility to: a) understand the biological processes and interactions between the forest and wildlife organisms, as well as the natural environment in general; b) approach the phenomena of the movement of elements and energy within the forest ecosystem; c) select the necessary measures and actions that lead to the conservation of biodiversity and ecological balance, insofar as these depend on the management of a specific forest. Drafting the present handbook was based, on one hand, on the existing international literature and practices in matters of Forest Yield Science, and on the oth

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