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Wood Anatomy and Evaluation of Wood Structures and Their Modifications

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Message from the Guest Editors

Wood is a remarkably complex and fascinating biological structure and natural lignocellulosic polymer. Xylem provides water conductive function, and structural support to the tree, and serves in the storage of nutrients. Although the general features of the xylem are species-specific, many quantitative traits are modified by the growth environment (such as extreme events: frost, drought, flooding, lack of light, and pests). These modifications appear as anomalies in the xylem and in tree rings such as false-, frost-, light-, and blue-rings, etc.

Mechanical stress (such as wind, snow, ice storms, mechanical injuries, and pruning) can also lead to the formation of atypical wood structures, such as reaction wood, wound wood, scar tissue, callus, necrotic tissue, etc. Moreover, understanding xylem structures and responses may be useful in predicting functional trends and climate change impacts on woody plants. This Special Issue aims to provide an overview of the latest knowledge on xylem anatomy evaluation and codification of xylem structures linked with their functional and ecological rule.



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Special Issue



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