

Challenges of Landscape Design with Tree Species Diversity

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Abstract : In the last decade, tree managers have faced many threats of pests and diseases and the effects of climate change. Managers will recognize that they have to put more energy and more money into tree management. By recognizing the cause behind this, the opportunity will arise to build sustainable tree populations for the future. More and more, unwanted larvae are sprayed, ash dieback infected trees are pruned or felled, and emerald ash borer is knocking at the door of West Europe. A lot of specific knowledge is needed to produce management plans and best practices. If pest and disease have a large impact, society loses complete tree species and need to start all over again building urban forest. But looking at the cause behind it, landscape design, and tree species selection, the sustainable solution does not present itself in managing these threats. Every pest or disease needs two important basic ingredients to be successful: climate and food. The changing climate is helping several invasive pathogens to survive. Food is often designed by the landscapers and managers of the urban forest. Monocultures promote the success of pathogens. By looking more closely at the basics, tree managers will realise very soon that the solution will not be the management of pathogens. The long-term solution for sustainable tree populations is a different design of our urban landscape. The use of tree species diversity can help to reduce the impact of climate change and pathogens. Therefore landscapers need to be supported. They are the specialists in designing the landscape using design values like canopy volume, ecosystem services, and seasonal experience. It's up to the species specialist to show what the opportunities are for different species that meet the desired interpretation of the landscape. Based on landscapers' criteria, selections can be made, including tree species related requirements. Through this collaboration and formation of integral teams, sustainable plant design will be possible.

Keywords : climate change, landscape design, resilient landscape, tree species selection

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