

## Reforestation Challenges

Report provided by Vladan Ivetić, Deputy Coordinator of IUFRO Research Group 3.02.00 - Stand establishment and treatment - <https://www.iufro.org/science/divisions/division-3/30000/30200/>

The conference on “Reforestation Challenges” took place on 20-22 June 2018 in Belgrade, Serbia, at the Faculty of Forestry of the University of Belgrade. This was the fourth meeting on reforestation challenges, after three successful meetings in three the preceding years (2015 – Belgrade, Serbia; 2016 – Krakow, Poland; 2017 – Session at the IUFRO Congress in Freiburg, Germany). The Faculty of Forestry of the University of Belgrade is a member of IUFRO. A total of 54 participants representing 22 countries attended (the list is at the end of this report). Conference website: <http://www.reforestationchallenges.org/>

The International Conference on Reforestation Challenges was an excellent opportunity for scientists to gather and present results and report on experiences from research areas relevant to reforestation. Renowned researchers from Europe and North America (Steven Grossnickle, Canada; R Kasten Dumroese, USA; Donato Chiatante, Italy; Diane Haase, USA; Nelson Thiffault, Canada) presented keynote speeches.

### Conference sessions focused on:

- Planning and management of reforestation programs
- Stock types and seedling quality
- Monitoring reforestation successes
- Planting and seedling-site interaction
- Species, intra-species and seed source selection
- Plant health in nurseries and plantations

### Awards

The moderators of sections voted for the best presentations. The Award for the best oral presentation went to Santa Neimane, from Latvia, and the Award for the best poster presentation was given to Nelly Aggangan, from the Philippines.

### Conference Conclusions

- Reforestation faces many challenges. Uncertainty of environmental changes reinforces the significance of a Target Plant Concept and its utility in restoring critical functions within forest landscapes.
- The high quality forest reproductive material, from seed to seedlings, is essential for reforestation success. Appropriate seed source selection, seed collection, and processing, are vital for establishing new planted forests, resilient to rapid changes. With ambitious reforestation and forest restoration projects on a global scale, the real challenge is to produce enough forest reproductive material of good quality.
- Only the best nursery practices will result in high quality seedlings. The Conference participants used the opportunity to exchange their experiences in seedling production, which is one of the most valuable results of this meeting.
- Many high-tech tools are available for production of forest reproductive material, and we should look to leverage those tools to produce high-tech seedlings capable of successfully facing new challenges.
- Once outplanted, seedlings will face site conditions, and the final outcome depends on a combination of seedling quality



Photo by Vladan Ivetić

and the level of environmental stresses. A good knowledge and understanding of ecophysiology is of a crucial importance for successful reforestation.

- We can help seedlings survive and grow at the outplanting site using different tools. An understanding of pests (viruses, bacteria, fungi, and insects) biology is required for proper planning of reforestation programs, as well as for choosing the appropriate silvicultural practices.
- Once established, planted forests need proper management. Plantation silviculture faces a myriad of spatial, production and profitability, and social issues, squeezed between forestry goals and public expectations, and limited by natural conditions and availability of resources.
- But, what happens when we fail? In order to better understand what went wrong and be able to learn from our failures, we need to develop a set of procedures (“Seedlings Forensics” and “Planting Site Investigations”) to collect evidence to ascertain the reasons for failure. Results of such investigations should be the component on any report on reforestation success or failure.
- We need to use all tools available in order to increase the success rate, e.g. the best practice of planting site preparation, planting techniques, and post-planting protection. Many of these methods are tested and proven at the operational level. Yet, there is a need for new techniques and methods under uncertain global change, which open opportunities for new research and inventions.

### Outcome

A book of abstracts (ISBN 978-86-918861-2-7) was published prior to the conference. All submitted full length papers from this Conference which pass the regular editorial and peer review process will be published in a special issue of the *Reforesta Journal* in December 2018: <http://journal.reforestationchallenges.org/index.php/REFOR>

Report abridged by the editor. Read the full report here: <https://www.iufro.org/science/divisions/division-3/30000/30200/activities/>