HOW DOES FOREST TREE BREEDING SUPPORT THE EU GREEN DEAL, FOREST STRATEGY AND BIODIVERSITY POLICIES?

The European Green Deal sets out the ambition for the EU to be the first carbon neutral continent by 2050. To achieve this goal, the EU has adopted a New EU Forest Strategy for 2030 (EFS2030). Both can be supported by forest tree breeding, and the work of the B4EST project.

The new EU forest strategy: to cope with future conditions, selected forest reproductive material will be required for the strategy's ambitious afforestation and tree planting programmes (3 billion trees). Thanks to B4EST, more future climate-adapted seeds and seedlings will be identified and deployed, increasing the resilience of future forests and facilitating the restoration of degraded ecosystems, and enabling multi-functional and sustainable forest management.

The EU biodiversity strategy: more than half of the continental biodiversity in Europe is hosted in forests, which contain 25% of Natura 2000 areas. By supporting the development of more resilient forests, assisted migration of genetic resources and species and restoration initiatives, tree breeding programmes and B4EST are helping to reach biodiversity goals. The provision of adapted seedlings also helps fast restoration of forest sites after major devastating damage mainly induced by climate change (e.g. megafires, bark beetle attacks) allowing a fast recovery of forest areas and limited biodiversity losses.

Supporting climate policies: by securing the biomass production of forests under perturbations, tree breeding and revised deployment strategies also helps forests to increase sequestration and work as a carbon sink, and in doing so supports EU policies on climate. In addition, investors using improved material combining high adaptation and wood properties with high economic value, will be more prone to manage their forest and contribute to the bioeconomy, harvesting wood that will substitute fossil fuels and other fossil-based materials such as plastic and concrete.

Supporting the transition to a climate-prepared and resilient Europe: B4EST fosters breeding programmes that provide improved forest trees able to cope with more heatwaves, droughts and diseases. This contributes to preparing Europe to deal with climate disruption. This reproductive material will be available either in anticipation of disaster or in restoration, leading in both cases to more resilient ecosystems.

Boosting efficient use of resources: The EU Green Deal, in line with the Bioeconomy Strategy, assumes that there is more use and a more efficient use of wood coming from EU forests. B4EST and forest tree breeding has already and will enhance the contribution to this goal, providing trees that respond to expectations of the industry which value both wood and non-wood resources. For some specific uses of wood biomass such as breeding for fibres, the tree breeder community has already supported with improved materials the development of paper, bioplastics and bio-sourced panels that can replace non-renewable materials.

Contributing to ensuring buildings are more energy efficient: wooden buildings are well-known for their energy efficiency, but wood structures made of panel and wood wool isolation also improve habitat conditions in case of heatwaves. This requires good biomass production as fostered by tree breeding, but as demonstrated by recent publications will need additional plantations based on good deployment strategies.

Decarbonising the energy sector with clean, affordable and secure energy: The increased yield obtained by tree breeders from B4EST enables the increase of healthy and productive forests under global change. Using appropriate breeding and deployment strategies proposed by B4EST is a way to secure biomass production; especially from pre-commercial thinning of forest, or dedicated biomass forest stands in appropriate landscape mosaics which maintain multifunctionality if used on appropriate sites. Wood residues resulting from the wood processing industries also contribute to the circular economy by being recycled or burnt.

Empowering citizens: tree planting is a low-tech method that allows citizens and municipalities to easily benefit from high-level science. B4EST produces decision support tools to aid the selection of the best genetic resources and improved material for everybody.

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