

BOOK OF ABSTRACTS

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Variation in phenology traits and growth in a multi-site provenance trial of wild cherry (*Prunus avium* L.) in the Netherlands, Belgium and Germany

T1.12 Forest genetics tools to improve forest resilience to climate change and forest health

Inge Verbeek^{1,2}

Paul Copini^{1,2}, Bart de Cuyper³, Mirko Liesebach⁴, Joukje Buiteveld^{1,2}

¹ Wageningen University and Research

² Centre of Genetic resources the Netherlands

³ Research Institute for Nature and Forest Belgium

⁴ Thünen-Institut für Forstgenetik

Abstract: There is a need for forest managers to diversify forest stands in order to increase resilience to climate change and upcoming pests and diseases. Wild cherry (*Prunus avium*) is seen as one of the candidate species, due to its superior wood quality, relatively fast growth, silvicultural value, and high litter quality. The objective of the study is to investigate provenance performance under different environmental conditions with the ultimate aim to identify seed sources that are well-adapted to the present climate but can also deal with the predicted climate change. The results from these provenance trials may guide forest managers in their decision whether to use local or more southern seed sources from warmer or drier areas. For this, we established a wild cherry provenance trial network in the Netherlands, Belgium, and Germany with two trials per country. Seventeen provenances from five Western European countries were planted. All provenances were from approved seed sources either seed orchards (Qualified) or seed stands (Selected). We did repeated assessments of budburst, leaf fall, survival, and height growth. We analyzed differences between provenances by modeling spatial trends using the ‘SpATS’ R-package and using a multi-site approach. In general, we observed consistent differences in adaptive traits like budburst and leaf fall. Based on the results, recommendations for seed transfer will be discussed.