

Title	Responses of European Forests and Society to Invasive Pathogens (RESIPATH)
Number	
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Budget	201.000 TL
Periods	01/01/2014 – 31/12/2016
Organization of Funding Sources	AB ERANET BIODIVERSA General Directorate of Agricultural Research and Policies

Abstract:

Invasions of forest pathogens generally occur at a large scale affecting tree species with a widespread distribution in Europe. This project will focus on selected tree species currently threatened by different invasive pathogens; elm (*Ulmus minor/ U. glabra*) and *Ophiostoma novo-ulmi* (causing Dutch Elm Disease), ash (*Fraxinus excelsior*) and *Chalara fraxinea* (causing ash dieback), alder (*Alnus glutinosa*) threatened by *Phytophthora alni* and oak (*Quercus* spp) being affected by both *Erysiphe alphitoides* and *P. cinnamomi*. The selected tree species are not only an integral part of their ecosystems but are also economically important and supply crucial environmental services to European society, such as biodiversity, watershed protection, stabilisation of river banks, as well as recreational and cultural values. Thus, a multidisciplinary approach is required to evaluate the impact of invaders in economic terms. Due to different mortality patterns, the array of host-pathogen combinations enables the study of differential effects on the host population in terms of demographics and evolution. The high ecological and economic impact caused by invasive pathogens nowadays necessitates the development of an early detection system and to increase knowledge on the importance of different pathways for their introduction and spread. Ultimately, an efficient response from society to mitigate the impact of invasive pathogens also depends on the public perception and the communication between researchers and stakeholders in society. Although widespread, the different invasive pathogens to be studied here have not yet affected the entire tree population in Europe. The participating countries in the proposal cover a range of sub- populations of the selected tree species which have experienced the invasive pathogens for different periods of time or not yet affected. Working at a European scale will allow us to study invasions at different stages and along gradients far exceeding those obtained at a national scale.